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CV

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ENGLISH SUMMARY

Organizations constantly face the pressure to adapt to evolving environments. However, the ability of management to both foresee the need for change and to timely implement it has been subject to much debate (Hannan and Freeman, 1984; Nelson and Winter, 1992; Romanelli and Tushman, 1994). Can organizations undergo substantial change and survive, or does organizational evolution happen only at the population level? This is one of the most fundamental questions in organizational research. Regardless of their success record, organizations in fact regularly embark on major transformations. Thus, a relevant question is: what happens when organizations undergo such transformations? Specifically, given that the human capital embedded in employees can form the basis of an organization's competitive advantage (Barney, 1991; Coff, 1997; Hitt *et al.*, 2001), what are the consequences of these transformational efforts on employees? In this thesis, I explore the effect of major organizational change on employee mobility and stress. In particular, I focus on the outcome of two strategies used by organizations for the purpose of change: mergers and acquisitions (M&As) and external CEO/top-management team (TMT) replacement.

M&As provide the means for organizational transformation through expansion and resource acquisition by means of market entry (Bower, 2001; Harzing, 2002; Shimizu *et al.*, 2004), technology acquisition and innovation, diversification and spread of risk, and expansion of capacity or consolidation to increase efficiency (Chatterjee, 1992; Christensen *et al.*, 2011; Larsson and Finkelstein, 1999; Graebner *et al.*, 2017; Bower, 2001; Haleblian *et al.*, 2009). While the performance outcomes of M&As have been subject to much research, individual-level behavioral outcomes have received substantially less attention. For example, several scholars have linked the poor performance records of M&As to negative employee reactions to such M&As (Cartwright and Schoenberg, 2006; Davy *et al.*, 1988; Levinson, 1970; Marks and Mirvis, 2001; Schuler and Jackson, 2001); however, the research on the link between M&As and employee outcomes remains sparse and strongly focused on management. One key individual behavior with potentially negative organizational outcomes is employee turnover. Employee turnover undermines organizational performance by eroding the social and human capital base of the organization and affecting organizational performance, survival and competitive advantage (Aime *et al.*, 2010; Hancock *et al.*, 2013; Hatch and Dyer, 2004; Heavey *et al.*, 2013; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Wezel *et al.*, 2006). Sudden increases in employee turnover can be particularly disruptive for performance (Heavey *et al.*, 2013), quickly eroding the organization's human capital –the knowledge, skills, abilities and other characteristics that are relevant for economic output (Ployhart *et al.*, 2014).

The point of departure of the first article of this thesis is thus as follows: Do M&As increase employee turnover; if so, who leaves? I find that employee turnover unambiguously increases as a result of M&As. However, a more granular analysis shows a "last-in-first-out" scenario and does not back up the notion that top employees depart *en masse* following M&As. Consequently, one must question the degree to which accounts of human capital drain following M&As are representative of a wide set of organizations. Accounts of top employees departing following M&As may be compounded by the fact that top-performing employees are relatively more visible in the labor market in general, and they are thus highly mobile (Groysberg *et al.,* 2008). Nevertheless, I find that the mobility of top-performing employees is not particularly increased by M&As. The findings also reinforce recent evidence that M&A deals can be put off by potential employee mobility (Younge *et al.,* 2014) as organizations consider human capital retention key to value creation in deals (Pablo, 1994). The findings also indicate that employee turnover is largely involuntary as organizations integrate operationally in the quest for synergy realization, as those who leave have relatively low human capital.

While the most common path for employee mobility is between established organizations, employee transition to entrepreneurship is becoming increasingly common. Similar to turnover, entrepreneurial entry has been associated with significant performance damage for the source organization (Campbell *et al.,* 2012; Wezel *et al.,* 2006). The second article of this thesis therefore aims to study the impact of M&As on entrepreneurial entry. Following the sociological approach of Sørensen and Sharkey (2014), I argue that changes in the opportunity structure within the organization change the relative attractiveness of entrepreneurship for employees as a means by which to advance their career. In other words, employees enter entrepreneurship because they perceive it to be the best way to advance (Sørensen and Sharkey, 2014). In the same vein, I argue that employees with higher levels of organization-specific capabilities and who are closest to the opportunity ceiling are more likely to transition to entrepreneurship as a reaction to shocks to the span of control. Overall, I find concrete evidence that M&As indeed increase the transition to entrepreneurship for employees of M&A targets. This finding supports and extends the previous studies on entrepreneurial entry in high-tech industries that have considered M&As to be a relevant factor (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper, 2009; Klepper and Thomson, 2010). The finding also shows that this transition is particularly marked for employees in management positions who are arguably closest to the ceiling in the internal opportunity structure (Sørensen and Sharkey, 2014). The sudden increase in the span of control due to an M&A means that managers' advancement opportunities are curtailed, which translates into higher entrepreneurial entry rates. The impact of M&As on entrepreneurial transition is short-lived, and those who stay are no longer more likely to transition to entrepreneurship.

However, not all M&As are equal. The effects of M&As on employee mobility vary greatly depending on the deal characteristics, particularly the level of industry relatedness between target and acquirer in M&As. The M&A literature (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004) indicates that the closer the degree of relatedness, the higher the levels of integration needed to fully unlock the value of the deal. Higher levels of resource redundancy and a greater span of control for management would suggest that the higher the integration is, the stronger the effect on mobility. I find that employee turnover indeed increases with the level of industry relatedness: the greater the overlap, the stronger the effect on employee turnover. The effect of industry relatedness is the same for entrepreneurial entry barring one major difference: closely related M&As have no effect. This difference reveals an identified countervailing force at play that generates a boundary condition or even a U-shaped relationship between industry relatedness in M&As and entrepreneurial entry. Potential candidates in this context include noncompete contractual clauses or economic incentives (e.g., vested stock) to discourage employees' transition to entrepreneurship. Lastly, pursuing a gradual M&A approach is an effective means of avoiding employee turnover. Equity alliances that gradually increase the involvement of the acquirer in the M&A target in effect reduce the impact of M&As on employee turnover, possibly by reducing adverse partner selection (Reuer and Ragozzino, 2008) and providing enough time for employees to adapt their perception of fit with the new organizational image (Holtom *et al.*, 2005).

The third article of this thesis, co-authored with Michael S. Dahl, explores a second strategy used to achieve organizational change: namely, external top-management team (TMT) replacement. Executive replacement is often considered an inflection point in an organization's lifecycle, providing the opportunity to reorient strategies, processes and structures (Tushman and Rosenkopf, 1996). Newcomers often come with a mandate for change and are given substantial managerial discretion to carry out such change (Barron *et al.*, 2011; Karaevli, 2007; Quigley and Hambrick, 2012; Shen and Cannella, Jr., 2002). Because top managers' decision-making is shaped by their ability to search for information, identify issues, specify alternatives and choose the most appropriate courses of action (Hambrick and Fukutomi, 1991), altering the composition of the TMT potentially leads to changes in decision-making and strategy, consequently affecting the entire organization. External successors arguably have both stronger ability and motivation to push for change than internal successors (Barron *et al.*, 2011; Karaevli, 2007; Quigley and Hambrick, 2012; Miller, 1993; Shen and Cannella, Jr., 2002; Virany *et al.*, 1992; Wiersema, 1992; Weisbach, 1995).

While the direct performance outcome of TMT replacement has been a fruitful area of research (i.e., Barron *et al.*, 2011; Haveman, 1993; Tushman and Rosenkopf, 1996; Williams *et al.*, 2017), with a general focus on the CEO figure (i.e., Beatty & Zajac, 1987; Georgakakis and Ruigrok, 2017; Karaevli and Zajac, 2013; Karaevli,

2007; Khurana and Nohria, 2000; Leker and Salomo, 2000; Shen and Cannella, Jr, 2002), its potential impact on employees' psychological wellbeing and turnover have been considerably less studied. Employees' mental wellbeing is clearly a relevant topic in itself; additionally, it is relevant for organizations given the potential negative impact of impoverished mental health on employee productivity (Adler *et al.*, 2006; Brenninkmeijer *et al.*, 2008; Harter *et al.*, 2002; Stewart *et al.*, 2003; Wang *et al.*, 2004). Motivated by this literature, we investigate how external CEO/TMT replacement influence employees' mental health and turnover.

We consistently find that external TMT-member replacement increases employee turnover and stress and that external TMT-member replacement in unstable contexts increases employee turnover, irrespective of the organizational performance in the period leading up to the replacement. These findings are in line with the upper-echelon view of the firm, by which the whole TMT shapes the organization and its strategy and does not support views that either positive or negative organizational performance is a prerequirement for change (Boeker, 1997; Karaevli and Zajac, 2013; Zhang and Rajagopalan, 2010). However, performance is relevant with regard to external CEO replacement. In a context of positive performance, external CEO replacement does not have a significant impact on employee turnover or stress, irrespective of CEO replacement in the previous years. When performance is negative, externally replacing the CEO actually *reduces* employee turnover if there was no replacement the year before. Taken together, this is evidence that CEO succession is least disruptive for employees when the organization is performing strongly; CEO succession is even positive in periods of poor performance without recent replacement.

Another major finding is that joint replacement events involving internal CEO replacement increase employee turnover whereas joint replacement events involving external CEO replacement decrease turnover. We believe that two mechanisms could be at play here: first, it could be a timing issue as employees wait to have more information on the new external CEO's and the remodeled TMT's potential impact on the organization, and as the new executives in turn learn more about the organization before embarking on major changes. This would be consistent with cases such as Louis V. Gerstner, Jr.'s tenure as CEO of IBM (Karaevli, 2007). Second, it is possible that "internal contender" succession –whereby the CEO is forced to step down as a result of power struggles and is replaced internally– can be more disruptive for employees than external CEO replacements when coupled with TMT restructuring. With their more in-depth knowledge of the organization, internal contenders would be in a position to initiate change swiftly after their appointments, bringing in new TMT-members to overcome opposition to change. This is in line with Shen and Cannella, Jr. (2002), who point out that internal contender succession will have the most immediate impact on organizational performance as contenders initially have a better understanding of the required changes and how to harness internal support than external candidates. This second possible mechanism raises

some questions regarding the extent to which executive "outsiderness" is a meaningful trait in cognitive terms, as initially theorized. If external CEOs bring in fresh perspectives and cognitive schemas that have a substantial impact on the organization, then why does the joint external replacement of the CEO and other TMT-members not have an impact on employee turnover and stress whereas internal replacement does have an impact? The argument of internal political resistance to new external CEOs does not hold water either, because members of the TMT are also replaced in this scenario, paving the way for the new CEO to establish his or her agenda. Altogether, on the one hand, the evidence supports the notion of internal contender succession as the most disruptive type for employees; on the other hand, and it calls for a re-examination of the factors of outsiderness that may determine the impact of external successors on employee turnover and stress.

Overall, this thesis sheds further light on the consequences of organizational change on employees. It contributes to the literature on employee mobility (Campbell *et al.*, 2012; Sørensen and Sharkey, 2014; Wezel *et al.*, 2006) and the outcomes of M&As (King *et al.*, 2004; Krug and Hegarty, 1997; Marks and Mirvis, 2001; Paruchuri *et al.*, 2006; Younge *et al.*, 2014), by showing if and when M&A deals lead to employee turnover and entrepreneurial entry. Furthermore, it contributes to the growing literature on the mental health consequences of organizational change (Dahl, 2011; Ferrie *et al.*, 1998). In doing so, it moves us a step further in our understanding of what happens when organizations embark on transformational processes.

DANSK RESUME

Organisationer står konstant overfor at skulle tilpasse sig ændrende miljøer. Alligevel er ledelsesniveauets evne til bade at forudse behovet for forandring og tilpasse sig i tide et emne, der har været debatteret ofte. (Hannan and Freeman, 1984; Nelson and Winter, 1992; Romanelli and Tushman, 1994). Kan organisationer gennemgå betydelig ændring og overleve, eller kan organisationsudvikling kun foregå på individniveau? Det er en af de mest fundamentale spørgsmål i organisationsforskning. Upåagtet af deres tidligere erfaringer, så er faktummet ikke desto mindre, at organisationer ofte gennemgår større transformationer. Et relevant spørgsmål er derfor: "hvad sker der, når de gør dette?". Specifikt, givet at en organisations menneskelige kapital kan være basis for dens konkurrencemæssige fordel (Barney, 1991; Coff, 1997; Hitt *et al.*, 2001), hvad er konsekvensen for denne forandringsmæssige indsats på medarbejderne? I denne afhandling vil jeg udforske effekten af større organisatoriske transformationer på medarbejdermobilitet og stess. Helt specifikt vil fokusset være på resultatet af to strategier, som bruges til forandring: Fusioner og opkøb (kendt som M&As) og ekstern CXO-udskiftning (TMT-replacement)

M&As giver en mulighed for transformation af organisationer igennem ekspansion og tilegnelse af resurser til at entrere markedet (Bower, 2001; Harzing, 2002; Shimizu *et al.*, 2004), tilegnelse af teknologi og innovation, diversifikation og spredning af risiko, samt kapacitets udvidelse eller konsolidering for at øge effektivitet. (Chatterjee, 1992; Christensen *et al.*, 2011; Larsson and Finkelstein, 1999; Graebner *et al.*, 2017; Bower, 2001; Haleblian *et al.*, 2009). Selvom effekten af M&As på bundlinjen har været emnet for megen forskning, så har effekten på individniveau været begrænset. For eksempel, så har flere forskere fundet sammenhæng mellem dårlige resultater for M&As og negative medarbejder reaktioner (Cartwright and Schoenberg, 2006; Davy *et al.*, 1988; Levinson, 1970; Marks and Mirvis, 2001; Schuler and Jackson, 2001), men forskningen på denne sammenhæng mellem M&As og medarbejdere har været sparsomlig og oftest fokuseret på ledelsen. Et nøgleparameter for individuel opførsel, som kan have negative organisatoriske konsekvenser, er medarbejderudskiftning. Medarbejderudskiftning kan være med til at underminere en organisations evne til at præstere, ved at erodere den sociale og menneskelige kapital, som er fundamentet for organisationen og på den måde påvirke organisations evne til at præstere, overleve og dens konkurrencemæssige fordel (Aime *et al.*, 2010; Hancock *et al.*, 2013; Hatch and Dyer, 2004; Heavey *et al.*, 2013; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Wezel *et al.*, 2006). Pludselige stigninger i medarbejderudskiftning kan være specielt ødelæggende for en virksomheds præstation (Heavey *et al.*, 2013), og hurtigt erodere en organisations menneskelige kapital – viden, evner, færdigheder og andre træk, som er afgørende for økonomiske resultater (Ployhart *et al.*, 2014).

Udgangspunktet for denne afhandlings første artikel er derfor: Øger M&As medarbejderudskiftning, og i givet fald, hvem forlader organisationen? Det, som jeg finder ud af, er, at medarbejderudskiftningen utvetydigt stiger i forbindelse med en M&A, men en mere finmasket analyse viser, at der er tale om en "last-in-first-out" situation, hvilket ikke kan underbygge idéen om, at topmedarbejdere forlader organisationen i massevis i kølvandet på en M&A. Man bliver derfor nødt til at spørge sig selv, i hvilket omfang menneskelig kapital drænes fra en organisation efterfølgende en M&A er repræsentativt for et bredt udvalg af organisationer. Fortællinger om nøglemedarbejdere, der forlader organisationen efter en M&A, bliver muligvis forstærket af, at disse medarbejdere ofte er mere synlige på arbejdsmarkedet generelt og derfor har en højere mobilitet (Groysberg *et al.*, 2008). Ikke desto mindre, så peger mine undersøgelser på, at nøglemedarbejders mobilitet ikke stiger betydeligt efter en M&A. Dette resultat forstærker også nylig evidens på, at M&A aftaler kan blive udskudt grundet potentiel medarbejder mobilitet (Younge *et al.*, 2014), da organisationer betragter menneskelig kapital fastholdelse som nøglen til en aftales værdiskabelse (Pablo, 1994). Det peger også på, at medarbejderudskiftet primært er ufrivillig, da organisationer integreres operationelt I jagten på synergier, da dem, som forlader organisationen har relativt lav menneskelig kapital.

Selvom den mest normale vej for medarbejdermobiltet er mellem to etablerede organisationer, så er overgangen til iværksætteri stadig stigende. Ligesom medarbejderfrafald, så er iværksætteri også blevet associeret med signifikant påvirkning på organisationen, hvorfra medarbejderen udspringer. (Campbell *et al.*, 2012; Wezel *et al.*, 2006). Den anden artikel i denne afhandling har derfor til formål at belyse betydningen af M&A på iværksætteri. Baseret på Sørensen og Sharkey's (2014) sociologiske tilgang, så argumenterer jeg for, at ændringer i mulighedsstrukturen inde i organisationen kan gøre det relativt mere attraktivt for medarbejdere at forfølge iværksætteri, som en måde hvorpå de kan fremme deres karriere. Med andre ord, medarbejdere bliver iværksætteri fordi de ser det som den bedste måde at fremme deres karriere på (Sørensen and Sharkey, 2014). I samme ombæring argumenterer jeg for, at medarbejdere med et højere niveau af organisationsspecifikke kompetencer og tættere på toppen af avancementsmulighederne, er mere tilbøjelige til at overgå til iværksætteri, som en reaktion på iværksætteri, som en reaktion på *organisatoriske ændringer af ansvar og muligheder.* I det store hele finder jeg konkrete beviser på, at M&A'er øger overgangen til iværksætteri for medarbejdere i organisationer, som er mål for M&A's. Disse fund under- og udbygger tidligere studier omkring iværksætteri i high-tech industrier med fokus M&A's (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper, 2009; Klepper and Thomson, 2010). Det viser også, at denne overgang er specielt relevant for medarbejdere i ledelsesstillinger, som formentlig er tættere på loftet ift avancement internt i organisationen (Sørensen and Sharkey, 2014). Den pludselig stigning i the span of control pga. M&As betyder, at lederes mulighed for avancement bliver begrænset, hvilket kan overføres til en stigning i

nystartede iværksætteri. Betydning af M&As på iværksætteri er kortlivet, og de, som bliver, har ikke en øget sandsynlighed for at overgå til iværksætteri.

Dog er alle M&As ikke skabt lige. Effekten fra en M&A på medarbejdermobilitet variere betydeligt afhængigt af aftalens sammensætning – specielt niveauet af industri ensartethed mellem målet og opkøberen i M&A. Litteraturen inden for M&As (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004) indikere, at jo mere ensartet de to er, desto mere integration er påkrævet for at kunne fuldt ud realisere aftalens værdi. Et højere niveau af resurse redundans og øget ?ledelsesmæssigt omfang?, jo mere integration er nødvendig og desto højere er effekten på medarbejdermobiliteten. Mine resultater peger på, at medarbejdermobiliteten stiger i takt med brancheensartheden: jo større overlap, desto større er effekten på medarbejdermobiliteten. Brancheensartetheden har samme effekt på iværksætteri, dog med én primær forskel – M&As med meget ens aktører har ingen effekt. Dette peger på en identificeret udligningseffekt, som skaber en grænse eller måske endda et U-formet forhold mellem brancheensartethed og entreprenante tendenser. Potentielle kandidater har ofte konkurrenceklausuler eller økonomiske incitamenter (fx medarbejderaktier) med det formål at afholde medarbejderens lyst til at blive selvstændig. Til sidst skal det nævnes, at forfølgelse af en gradvis M&A tilgang virker til at være en effektiv måde at undgå medarbejdere forlader organisationen. Equity alliances, som gradvist øger opkøberens engagement i målet for M&A, reducere opkøbets betydning på medarbejderfrafald – formentlig grundet reduceret ugunstig partner selektion (Reuer and Ragozzino, 2008) og samtidig giver medarbejdere tilstrækkeligt med tid til at tilpasse deres syn på deres rolle i den nye organisation (Holtom *et al.*, 2005).

Denne afhandlings tredje artikel, som er medforfattet af Michael S. Dahl, udforsker en anden strategi for at opnå organisatorisk forandring: nemlig ekstern udskiftning af CXO-teamet. Udskiftning i topledelsen bliver ofte betragtet som et brydningspunkt i en organisations livscyklus, som giver mulighed for at reorientere strategier, processer og strukturer (Tushman and Rosenkopf, 1996). Nytilkomne får ofte et betydeligt ledelsesmæssigt mandate til at foretage ændringer i organisationen (Barron *et al.*, 2011; Karaevli, 2007; Quigley and Hambrick, 2012; Shen and Cannella, Jr., 2002). Siden topleders beslutningsgrundlag bliver skabt på baggrund af deres evne til at søge efter information, identificere udfordringer, specificere alternativer og vælge den mest relevante løsning (Hambrick and Fukutomi, 1991), ændres sammensætningen af topledelsen, så kan dette føre til potentielle ændringer i beslutningsprocessen, samt strategi, hvilket kan have en negativ påvirkning på hele organisationen. Eksterne efterfølgere har velsagtens både en større mulighed og motivation for at presse forandringer igennem ift. interne efterfølgere (Barron *et al.*, 2011; Karaevli, 2007; Quigley and Hambrick, 2012; Miller, 1993; Shen and Cannella, Jr., 2002; Virany *et al.*, 1992; Wiersema, 1992; Weisbach, 1995).

Hvor den direkte præstationseffekt af CXO-udskiftning har været fokus for megen forskning (i.e., Barron *et al.*, 2011; Haveman, 1993; Tushman and Rosenkopf, 1996; Williams *et al.*, 2017), med et generelt fokus på CEO'en (i.e., Beatty & Zajac, 1987; Georgakakis and Ruigrok, 2017; Karaevli and Zajac, 2013; Karaevli, 2007; Khurana and Nohria, 2000; Leker and Salomo, 2000; Shen and Cannella, Jr, 2002), så er den potentielle påvirkning af medarbejderes psykiske velbefindende og udskiftning ikke dokumenteret i samme grad. Medarbejderes mentale velbefindende er et ganske relevant emne i sig selv, og specielt organisationer, given den potentielle negative betydning, som dårligt arbejdsmiljø og velbefindende kan have på produktiviteten (Adler *et al.*, 2006; Brenninkmeijer *et al.*, 2008; Harter *et al.*, 2002; Stewart *et al.*, 2003; Wang *et al.*, 2004). Motiveret af denne literatur, undersøger vi hvordan CEO/CXO-udskiftning påvirker medarbejderes mentale velbefindende og udskiftning.

Vores resultater peger konsistent på, at eksterne CXO-udskiftninger øger medarbejderes stressniveau og udskiftning, og at CXO-udskiftning i usikre tider, upåagtet af organisationens præstationer i perioden op til udskiftning, øger medarbejderudskiftning. Dette falder godt I tråd med Upper Echelon-teoris syn på CXO-teamet, som værende formende for en organisation og dens strategi; og lader ikke til at støtte den tilgang, at enten positive eller negative organisatoriske præstationer, som værende katalysator til forandring. (Boeker, 1997; Karaevli and Zajac, 2013; Zhang and Rajagopalan, 2010). Præstationer har dog betydning, når der er tale om en ekstern CEO-udskiftning. I en kontekst med positive resultater, har ekstern CEO-udskiftning ikke en betydende indflydelse på medarbejderudskiftning og stess – upåagtet af CEO-udskiftninger i foregående år. Når præstationer har været dårlige, så kan en ekstern udskiftning af CEO'en faktisk reducere medarbejderudskiftning, hvis der ikke har været nogen udskiftning i året før. Sammenholder man dette, så er der evidens for, at en CEO-udskiftning har mindst påvirkning på medarbejderne, når organisationen klarer sig godt og endda positiv i perioder med dårlige præstationer uden nylige udskiftninger.

Et andet betydeligt fund er, at samlet udskiftninger, hvor flere medlemmer af CXO-teamet inkl. CEO udskiftes, hvor CEO-efterfølgeren er intern, øger medarbejderudskiftning, hvor hvis CEO-efterfølgeren have været ekstern, så havde det formindsket medarbejderudskiftning. Vi mener, at der kan være to mekanismer på spil her. For det første kan det være et spørgsmål om timing, hvor medarbejderne afventer mere information om den nye eksterne CEO og den nye CXO-sammensætnings påvirkning på organisationen, samtidig med at et nyt CXO-team forsøger at lære mere om organisationen før man påbegynder større forandringer. Dette ville være på linje med cases så som Louis V. Gerstner, Jr.'s turnus som CEO for IBM (Karaevli, 2007). For det andet, så er det muligt at en intern efterfølger – hvor CEO bliver tvunget til at fratræde sin stilling som et resultat af interne magtkampe og derefter udskiftet internt – kan have en mere kraftig påvirkning på medarbejdere end en ekstern kandidat, hvis det bliver koblet med andre CXO-

udskiftninger. Med deres mere dybdegående kendskab til organisationen, så forventes interne kandidater at være i en position, hvor de hurtigt kunne initiere forandring efter deres tiltrædelse og udpege nye CXO-medlemmer for at overkomme modstand mod forandring. Dette er på linje med Shen and Cannella, Jr. (2002), som påpeger, at en intern efterfølger vil have den mest umiddelbart påvirkning på organisationens præstationer, da disse vil have en bedre forståelse for de forandringer, som er påkrævet, samt at stable intern støtte på benene, end eksterne kandidater. Denne anden mulige mekanisme rejser ligeledes en række spørgsmål omkring I hvilket omfang, at CXO'ers "outsiderness" er en betydningsfuld egenskab i en kognitiv kontekst, som det oprindeligt blev troet. Hvis eksterne CEO'er bringer nye perspektiver og måder at tænke på, som har en betydelig påvirkning på organisationen, hvorfor har en dobbelt ekstern udskiftning – af CEO og andre CXO-medlemmer – ikke en påvirkning på medarbejderudskiftning og stress, men interne udskiftninger har? Argumentet om intern politisk modstand mod en ny ekstern CEO holder heller ikke vand, fordi medlemmer af CXO-teamet også udskiftes I dette scenarie, hvilket baner vejen for, at CEO'ens egen agenda. Alt I alt underbygger resultaterne, en intern efterfølger som værende mest påvirkende på medarbejderne på den ene hånd, og på den anden hånd peger på behovet for en ny undersøgelse af, hvilke "outsider"-faktorer, som er betydende for eksterne efterfølgers påvirkning på medarbejderudskiftning og stress.

Overordnet set, så har denne afhandling kastet yderligere lys på konsekvenserne for medarbejderne ved organisatorisk forandring. Den bidrager til litteraturen indenfor medarbejdermobilitet (Campbell *et al.,* 2012; Sørensen and Sharkey, 2014; Wezel *et al.,* 2006) og resultaterne af M&As (King *et al.,* 2004; Krug and Hegarty, 1997; Marks and Mirvis, 2001; Paruchuri *et al.,* 2006; Younge *et al.,* 2014), ved at vise, at hvis og når M&A-aftaler fører til medarbejderudskiftning og iværksætteri. Hertil bidrager den også til et voksende forskningsområde indenfor konsekvenserne ved organisatorisk forandring på medarbejders mentale velbefindende (Dahl, 2011; Ferrie *et al.,* 1998). Dermed er den med til at bringe os et skridt tættere på en forståelse af, hvad der sker, når en organisation bevæger sig ud på en transformativ rejse.

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Chapter 1. Introduction

1.1. INTRODUCTION

Few ideas find as much support among organizational scholars as the need for organizations to adapt to changes in the environment to survive and grow. To that end, managers constantly formulate and implement new strategies and organizations. Considerably more contested, however, is the ability of organizations to successfully change and undergo transformational processes. On the one hand, the management literature often considers organizations to be fairly malleable, a view that is in line with what Hannan and Freeman (1984) refer to as 'rational adaptation theory'. Through this lens, managers envision a specific end-state and commit resources for transforming organizations accordingly. The ability of organizations to reconfigure resources to address environmental changes, so-called dynamic capabilities, is in fact at the core of strategic management theory (Teece *et al.*, 1997). Punctuated equilibrium theories of organizational transformation, whereby organizations undergo fundamental transformations in a short time span following long periods of stability, have also received considerable support in the management research (Romanelli and Tushman, 1994). Although these theories recognize the risks of engaging in transformational processes, they nevertheless sustain that organizations can and indeed do undergo fundamental change. On the other hand, organizational ecologists argue that inertial forces prevent organizations from substantially and timely changing courses of action (Hannan and Freeman, 1984). Evolution is seen in this context as occurring at the population level (i.e., through the creation of new organizations and organizational forms) rather than at the organizational level (Hannan and Freeman, 1977). In Nelson and Winter's words, "highly flexible adaptation to change is not likely to characterize the behavior of individual organizations" (1992: 134). Although some types of organizational changes occur with frequency, and sometimes even radical changes, evolutionary selection processes favor rigid organizational structures. Both internal and external pressures generate structural inertia, from internal politics and sunk costs to legal and institutional norms. While managers may generate new strategies and organizations, structural inertia largely prevents them from timely and successfully carrying out major change processes.

The idea that organizations can successfully adapt to changing environments hinges on the premise of congruency between design and outcome: is management able to both foresee the need for change and to timely implement the means by which to achieve a specific end state? Changes to an organization's core rarely occur overnight. Organizational ecologists have identified four process that delay and often prevent changes to an organization's core (Hannan *et al.*, 2003: 463): "(1) structural processes, including the consequences of intricacy and viscosity (sluggishness of response); (2) institutional processes, involving identities and the

"moral" character of structural arrangements; (3) political processes, involving interests and interest-group politics; and (4) learning processes, involving feedback over time."

During the time period in which new rules and structures are taking shape and the existing ones are being challenged and dismantled, the likelihood of conflict increases as contending parties strive to mold the organization to their own interests. This transition process makes organizations unstable and lowers reliability and performance, increasing organizational death rates (Hannan and Freeman, 1984). In addition, the reorganization process limits the organization's capability to take advantage of opportunities (Hannan *et al.*, 2003). The longer this transition period, the higher the organizational mortality rates will be. The worst possible scenario for an organization is to take so long to arrive at a new end-state that the new structure is no longer fit for the environment. Thus, even when decision-makers are able to see the necessary changes required, the time required to complete the transformational effort will be determined by the intricacy of an organization's design and its "viscosity", i.e., the typical time it takes for a unit to respond to changes and bring local architecture into conformity (Hannan *et al.*, 2003). Embarking on major change processes can thus be problematic and even deadly for organizations.

Despite the ongoing debate over the ability of organizations to successfully design and implement major change processes, it is undoubted that organizations often do attempt to change. The perceived need for change often overcomes the potential negative consequences of organizational change. In that regard, a number of relevant questions arise when transitioning from the issue of "can organizations change?" to "what happens to organizations when they try to do so?" It is precisely in this domain where the studies presented in this thesis take place. As organizational changes crafted in the upper echelons of the organization are announced and implemented, how do the rest of the organizational members react to the shock?

The point of departure here is that, regardless of the need or ability of organizations to change, major change processes have the potential to be highly disruptive for employees, as emphasized by organizational ecologists. Changing deeply engrained values and norms is likely to have adverse effects on employees (Baron *et al.*, 2001). The alteration of organizational routines may be met with emotional reactions, particularly if employees feel that they are not able to cope with the new tasks and practices. Attempts to alter core organizational features are negatively perceived by employees because they introduce uncertainty, causing anxiety and stress in employees (Bordia *et al.*, 2004) and thus increasing their intention to leave (Schweiger and Denisi, 1991). Such perceptions are heightened by the reported increase in breaches of implicit psychological contracts and agreements between employers and employees (Morrison and Robinson, 1997; Rousseau, 1989). This often translates into lower organizational commitment as well as increased anti-

social behavior, absenteeism and employee turnover. Based on the observation that organizational change often leads to negative employee reactions and outcomes, a number of authors have questioned the relative success of M&As and other restructuring efforts (Cartwright and Schoenberg, 2006; Marks and Mirvis, 2001; Schuler and Jackson, 2001).

This issue is of strategic importance for organizations because employee reactions to change can have a substantial impact on organizational performance. On the one hand, resource-based views of the firm (Barney, 1991) argue that an organization's competitive advantage is based on its rare, inimitable and valuable resources, and often such resources take the form of human capital (Coff, 1997). Losing highly valuable employees as a consequence of organization change can further contribute performance disruptions, further undermining an organization's competitive position –especially if employees go on to found their own ventures (Wezel *et al.*, 2006). This is particularly marked when the employees leaving the organization have high levels of human and social capital (Nyberg, 2010) and if a high number of them leave in a short period of time (Heavey *et al.*, 2013). On the other hand, a number of studies have also shown that employees' mental wellbeing can have severe implications for their performance (Adler *et al.*, 2006; Kessler *et al.*, 1999; Stewart *et al.*, 2003; Wang *et al.*, 2004). Therefore, employee turnover and stress as a result of organizational disruptions has the potential to further undermine performance.

Although the idea that organizational change can take its toll on employees has been studied before (see for example Dahl, 2011), there is still much to be explored: Do all types of organizational change have the same impact on employees? Which employees are most affected by change? This thesis focuses on the impact of two main types of organizational disruptions. The first and most prominent is Mergers and Acquisitions (M&As), which is the subject of the studies in presented in Chapter 2 and Chapter 3. M&As are a common strategy for organizational expansion and resource acquisition worldwide. However, from the employee perspective, being an employee of an M&A target can be highly challenging as one is suddenly faced with new routines, processes, and organizational identities. A potential outcome of an M&A is thus employee mobility –either to a competitor or to entrepreneurship. Organizations are aware of this phenomenon; in fact, a number of deals may be put off by the potential loss of talent (Younge *et al.*, 2014). In this context, the studies presented here explore both the impact of different types of M&As on employees and which groups of employees are most affected by them. Employee turnover in particular is studied in Chapter 2, whereas entrepreneurial entry is explored in Chapter 3. The second group of organizational disruptions investigated is external top executive replacement. Executive replacement is often considered an inflection point in an organization's lifecycle, and it provides the opportunity to reorient strategies, processes and structures (Tushman and Rosenkopf, 1996). In particular, Chapter 4 presents a study of the impact of external (outsider) Chief Executive Officer (CEO) and Top Management Team (TMT) replacement on employees.

Similar to M&As, strategic change and organizational reorientation following external executive replacement can disrupt the organization and have a substantial negative impact on employees. Thus, the main research question driving this thesis is as follows:

> *What is the impact of M&As and external CEO/TMT replacements on employees?*

While the performance outcomes of both M&As and external executive succession have been subject to much research, individual-level behavioral outcomes have received substantially less attention. By most accounts, the overall performance gains from M&As fall well below expectations in up to 90% of M&As (Christensen *et al.*, 2011; Marks and Mirvis, 2001). Several scholars have linked such performance to negative employee reactions to M&As (Cartwright and Schoenberg, 2006; Davy *et al.*, 1988; Levinson, 1970; Schuler and Jackson, 2001; Marks and Mirvis, 2001); however, the research on the link between M&As and employee outcomes remains sparse and strongly focused on management. There is no systematic analysis of the impact of M&As on employees based on objective evidence of their behavior while accounting for organizational and industry heterogeneity. What we know about employee reactions to M&As and external executive replacement is largely anecdotal or based on studies with limited research designs. This gap is due in no small measure to the general unavailability of databases that simultaneously track major organizational events and objective employee outcomes.

Since individuals represent the microfoundations of organizations, their behavior is fundamental to organizations' performance and survival. Therefore, this thesis focuses on employee behaviors that are considered to have detrimental consequences for organizational performance. In particular, I focus on employee mobility and negative stress outcomes of organizational disruptions. The potential costs of employee turnover and its impact on the organization's resource base are well established in the literature (Shaw *et al.*, 2013). The human capital that is embedded in employees can form the basis of an organization's competitive advantage (Barney, 1991; Coff, 1997; Hitt *et al.*, 2001), particularly organization-specific knowledge, skills, and abilities (Hatch and Dyer, 2004). The more unique the set of valuable knowledge, skills, abilities, and other characteristics (KSAOs), and the more unique the system of interactions between them (Nyberg *et al.*, 2014), the more likely it is that human capital will be rare, valuable and inimitable. Employee turnover undermines organizational performance by eroding the human capital base of the organization. The potential loss of social and human capital for organizations affects short-term financial and operational performance as well as organizations' competitive advantage (Aime *et al.*, 2010). Moreover, sharp increases in turnover are more disruptive than turnover that is spread over a long time period (Heavey *et al.*, 2013). The mobility of employees into entrepreneurship is likewise associated with significant performance damage for the source organization

(Campbell *et al.*, 2012; Wezel *et al.*, 2006). Thus, the first study of this thesis (Chapter 2) specifically seeks to answer the following question:

a) What is the effect of M&As on employee turnover?

However, not all M&As are equal. M&As are strategies to expand an organization's resource basis, and, as such, it can differ along several dimensions, depending on the relationship between newly acquired and previously existing resources. For example, M&As are used for market entry (Bower, 2001; Harzing, 2002), for technology acquisition and innovation, or to expand capacity and increase organizational efficiency –often referred to as synergies (Chatterjee, 1992; Christensen *et al.*, 2011; Larsson and Finkelstein, 1999). Ultimately, the characteristics of the organizations and the rationale behind the M&A will affect the degree of required integration (Bauer *et al.*, 2014; Chatterjee, 1992; Napier, 1989) and thus the degree to which M&As may represent a disruption to the targets' employees. Although a high degree of integration is often seen as necessary for resource redeployment and exploitation (King *et al.*, 2004), the expected level of synergies will be determined by the rationale behind a deal. For example, related M&As, where target and acquirer operate in the same industry, provide high opportunities for operational synergies, and high levels of integration are expected post-M&A (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004). Cross-border M&As, on the other hand, may provide great opportunities for complementarities but relatively weaker operational synergies. Generally, it is critical to understand how different types of M&A may have different impacts on employee turnover, and thus, in Chapter 2, I further explore the following question:

b) Do all types of M&A have the same effect on employee turnover?

A number of scholars have studied the impact of employee turnover on organizational performance in a variety of contexts, from health care (nurses and physicians) to call-centers and restaurant chains. The great majority of studies in this area have found a negative relationship between turnover and organizational performance, survival and competitive advantage (Aime et al., 2010; Hancock et al., 2013; Hatch and Dyer, 2004; Heavey et al., 2013; Kacmar et al., 2006; Park and Shaw, 2013; Shaw et al., 2005; Wezel et al., 2006). Similarly, the eventual success of M&As has often been tied to employees' reactions to the deals (Cartwright and Schoenberg, 2006; Marks and Mirvis, 2001; Schuler and Jackson, 2001). However, not all employee turnover is the same, as not all individuals are equally valuable for organizations. Several factors may affect the overall impact of employee turnover on an organization. Employees' levels of human capital –the aggregation of knowledge, skill, abilities and other characteristics (Ployhart *et al.*, 2014)- are key to organizational performance (Dalton *et al.*, 1982; Nyberg and Ployhart, 2013; Shaw *et al.*, 2005). Thus, the turnover of high performing employees may be disproportionally damaging for organizational performance (Nyberg, 2010). The

effect of the loss of human capital due to employee turnover is particularly damaging in industries where investment in human capital is substantial (Shaw *et al.*, 2005), as well as in knowledge- and skill-intensive industries (Hancock *et al.*, 2013). Therefore, understanding the question of who leaves following an M&A is crucial to understanding the overall effect on an organization; thus, the last guiding question of Chapter 2 is as follows:

c) How is the effect of M&As on employee turnover distributed across different groups of employees?

Among the different types of employee mobility, one that has drawn much scholarly attention is entrepreneurship. On the one hand, there is a belief that entrepreneurship is a major engine for economic and employment growth (Audretsch and Keilbach, 2004). On the other hand, there is an increasing recognition of established organizations as the context within which entrepreneurship is born and nurtured (Brittain and Freeman 1986; Sørensen and Sharkey, 2014). Nevertheless, despite the growing interest in entrepreneurship and the understanding that entrepreneurship is not born in a vacuum, the linkage between organizational context and entrepreneurial entry remains underexplored (for an exception, see Sørensen and Sharkey, 2014). How do organizational disruptions, as significant events in the life of an organization, affect individuals' choice of leaving the organization to enter entrepreneurship? Can M&As be an engine for entrepreneurial entry by employees of established organizations? These are highly relevant questions because this specific type of employee mobility can have a particularly negative impact on the performance of the source organization and its competitive advantage (Campbell *et al.* 2012, Wezel *et al.* 2006). Thus, entrepreneurship is not only greatly relevant for industrial and regional economic growth, but it also has significant implications for the performance of the source organization. In this context, the study presented in Chapter 3 argues that M&As increase the relative attractiveness of entrepreneurship for employees of M&A targets, acting as catalysts for entrepreneurial events (Krueger *et al.* 2000). The study therefore explores the following research question:

d) What is the effect of M&As on entrepreneurial entry?

Again, since M&As can be substantially heterogeneous, we should explore if different M&A types have different effects on entrepreneurship. Campbell *et al.* (2012) find that the negative effect of employee mobility into entrepreneurship increases with employee wages so that the departure of better-paid employees is most damaging for the source organization. Furthermore, as employees are positioned differently throughout the opportunity structure, they are likely to respond differently to changes in the span of control and advancement opportunities. Thus, in Chapter 3, I explore the following question:

e) What is the differential effect of M&A types of entrepreneurial entry?

M&As are prevalent and perhaps extreme cases of organizational disruptions. Other major organizational events that are often considered transformative are CEO and TMT member replacements (Tushman and Rosenkopf, 1996). The consequences of replacing the CEO as well as other top executives have been extensively studied by management scholars. Based primarily on upper echelons theory (Hambrick and Mason, 1984), the axiom in the top management replacement literature is that the organization is a reflection of its leaders, and therefore changes at the top are matched by changes throughout the organization. In general, scholars define three types of replacement events: successor, contender, and outsider (Barron *et al.*, 2011; Shen and Cannella, Jr., 2002). There are still questions with regard to the precise causes and consequences of each type of replacement. Nevertheless, the literature generally agrees that outsider executives are hired when the need for change is the greatest. The external replacement of the CEO and other TMT members is intended to transform the organization, bringing about substantive change and divergence from previous courses of action. Managers who have not been socialized into the organization are expected to provide diverse perspectives and insights, bringing along new information and cognitive frameworks that help organizations adapt and evolve. New external TMT members shape the ability of management to identify issues, search for information, specify alternatives and select appropriate courses of action (Hambrick and Fukutomi, 1991; Wiersema, 1992). These fresh insights and capabilities are bundled to new external members' initial lack of organizational socialization and solid grasp of internal politics, which can have potentially disruptive consequences for organizations. New managers often have little incentive to keep the status quo at an organization, and they are therefore more likely to promote change than their predecessor (Miller, 1993; Tushman and Rosenkopf, 1996). This is particularly marked in cases in which both the CEO and other members of the TMT are simultaneously replaced (Tushman and Rosenkopf, 1996). The redistribution of power, the redesign of control systems, the revision of practices, and new information systems are likely to be introduced following TMT replacement (Miller, 1993). Outsider executives are more likely to both have a greater mandate for change and to be granted considerable discretion to carry out change. Of all types of succession, outsider succession is the most likely to represent an organizational disruption, with potential impact on employees throughout the ranks.

Similar to M&As, external executive succession can be highly disruptive for employees. With the growing body of literature analyzing the relationship between employee wellbeing and organizational performance (e.g., Adler *et al.*, 2006; Harter *et al.*, 2002; Kessler *et al.*, 1999; Stewart *et al.*, 2003; Wang *et al.*, 2004), it is apparent that employee wellbeing has become paramount in the organizational research. The research shows that impoverished psychological health- and working environments increase workplace conflicts, unrest, stress, depression and absenteeism, decreasing productivity, increasing employee turnover and translating into substantial performance and financial losses (Kacmar *et al.*, 2006; Krueger and

Mas, 2003; Mas, 2008; Park and Shaw, 2013; Shaw *et al.*, 2005). The previous studies have also found that organizational changes have a significant impact on employees' physiological and psychological well-being (Dahl, 2011; Ferrie *et al.*, 1998; Kivimäki *et al.*, 2000). Since impoverished mental wellbeing can represent a tremendous drain of organizational resources (Stewart *et al.*, 2003; Wang *et al.*, 2004), it is crucial for organizations to understand how organizational disruptions psychologically affect employees. Chapter 4 precisely studies this link between organizational-level disruptions and employee wellbeing. In the study, co-authored by Michael S. Dahl, we investigate the following question:

f) What is the effect of external CEO/TMT member replacement on employee stress and turnover?

The chapters of this thesis cover complementary aspects of organizational disruptions and their individual-level outcomes. As mentioned above, the focus of the studies presented in Chapter 2 and Chapter 3 is on the outcomes of M&As. The perspective taken is that of the M&A target, with an emphasis on the disruptive effects of different types of M&A on employee mobility. The last study in Chapter 4, co-authored by Michael S. Dahl, considers the outcomes of disruptions that are products of key personnel changes at the top of organizations. In particular, the last study addresses the effect of the external replacement of CEO and TMT members on employee stress and turnover. Ultimately, the relevance of this research hinges on the premise that employee reactions to organizational disruptions are both important in and of themselves, and it is critical to the success of organizational change processes. However, before we turn to the studies, I first review the relevant literature on the key concepts, treatments and outcomes of such studies.

1.1.1. ORGANIZATION DISRUPTIONS

Organizational change and organizational disruptions are not the same phenomenon (Gjerløv-Juel, 2012). Organizations frequently change; however, such changes generally pertain to peripheral organizational structures, processes and activities. For organizational change to be considered disruptive, it must alter the organization's core processes and routines (Gjerløv-Juel, 2012). From the organizational ecology perspective (Hannan and Freeman, 1984), an organization's core is comprised of four general features: the organizational mission, the form of authority, the basic technologies, and the marketing strategy. Organizations embark much less frequently on the type of fundamental organizational changes that modify their cores than in changes to their peripheral structures and activities (Gjerløv-Juel, 2012).

Of a potential number of organizational disruptions, this thesis focuses on two particularly salient types: M&As and external CEO/TMT member replacement. These types of organizational change have the potential to alter several of an organization's core features simultaneously. Some scholars have argued, that M&As can in fact be so disruptive for employees that negative employee reactions are often

behind the failure of M&As. Recently, M&As have been scrutinized for their high failure rate, and although M&A performance metrics themselves have been put into question (Zollo and Meier, 2008), scholars claim that between 50% and 90% of deals fail to create the expected value (Christensen *et al.*, 2011; Mark and Mirvis, 2001; Schoenberg, 2006). Similarly, replacements of top executives, in particular by individuals who are new to the organization, has been defined as a pivotal moment in organizational life (Tushman and Rosenkopf, 1996). New external executives come with a mandate for change and no attachment to the status quo, and as they attempt to leave their mark on the organization and shape it according to their vision, they are a source of disruption.

In this section, I review what we know about such organizational changes and how they can be disruptive for organizations. In doing so, I draw on specific literature streams regarding executive succession and M&As as well as more general literature streams including studies that adopt the resource-based view of the firm and human capital.

M&As

Mergers and acquisitions (M&As) are one of the most widespread expansion strategies, enabling organizations to expand at a greater pace and change over a shorter period of time than occurs through organic growth (Kim *et al.*, 2011). Whether their goal is to acquire new technologies or intellectual property (Ahuja and Katila, 2001; Cassiman *et al.*, 2006), to expand geographically (e.g., Barkema and Vermeulen, 1998; Wang *et al.*, 2009) or to consolidate production and distribution (Christensen *et al.*, 2011), M&As are a very well established mechanism for transformation through boundary expansion (Aldrich and Ruef, 2006). Just since the turn of the century, over half a million M&A deals have been announced worldwide, worth in excess of $54 trillion (Thomson Financial, 2014). In parallel to their growing popularity, the perceived lack of success of M&As has caught the attention of scholars throughout the economics-, finance- and management fields, with some arguing that as many as half (Schoenberg 2006), three-quarters (Marks and Mirvis, 2001), and even 70-90% (Christensen *et al.*, 2011) of M&As actually fail to achieve their intended goals. Despite calls for the redefinition of "M&A performance" (Zollo and Meier, 2008), the factors behind such a high proportion of unsuccessful deals have been subject to much debate, which has led to an increased call to focus on the human aspects of M&As (Cartwright and Schoenberg, 2006; Davy *et al.*, 1988; Levinson, 1970; Schuler and Jackson, 2001; Buono and Bowditch, 2003; Stahl and Voigt, 2004, 2008). These studies are grounded on the observation that, without employee support, the expected goals of M&As are seldom achieved (Chatterjee *et al.*, 1992).

The great majority of M&A deals involve the integration of the target into the acquiring organization; however, the degree of integration differs across deal types (Bauer *et al.*, 2014; Chatterjee, 1992; Napier, 1989). Level of integration can be

defined as "the degree of postacquisition change in an organization's technical, administrative, and cultural configuration" (Pablo, 1994: 806). In general, acquiring organizations will seek to plug the target into their existing line of business, processes and routines (Christensen *et al.*, 2011); however, the targets of related M&As are more likely to become fully integrated into the acquirer, as such deals are mainly motivated by potential operational synergies (Chatterjee, 1992). In fact, Zollo and Singh (2004) argue that the benefits of related acquisitions are only expected to materialize in cases of extensive operational integration. Unrelated acquisitions are relatively more likely to grant greater degrees of autonomy to targets. There are exceptions to this approach whereby businesses keep their autonomy (see Zaheer *et al.*, 2013).

Full integration (or absorption) and full autonomy are presumably two extremes in what could be seen as an integration continuum. For example, Schweizer (2005) argues for hybrid integration strategies in technology acquisitions whereby different parts of the organization are integrated to different degrees. Others have argued that considering integration and autonomy to be opposites is actually a fallacy and that it is possible for targets to be fully integrated and retain their autonomy (Zaher *et al.*, 2013).

The preservation of key strategic resources and skills that form the foundation of value creation is essential for achieving value in M&As (Pablo, 1994). The target-specific bases for those resources and skills must not be eroded in the acquisition process, which highlights the tension between fully absorbing target organizations and keeping them at arm's length. The integration process has thus been one of the main areas of the M&A research. Integration refers to "changes in the functional activity arrangements, organizational structures and systems, and cultures of combining organizations to facilitate their consolidation into a functioning whole" (Pablo, 1994: 806). The research on integration is mainly focused on either the sources of synergies from coordination, on the one hand, or on the impact of consolidation on the organization, on the other. The camp that thinks in terms of synergies focuses on establishing the variables that determine the potential increase in performance of the combined organization to establish patterns of deals that create value (Larsson and Finkelstein, 1999; Zollo and Singh, 2004). The camp that is concerned with the consequences of M&As with regard to the organization instead focuses on the implementation challenges, from operational disruptions (Paruchuri *et al.*, 2006), to R&D and innovation (Cassiman *et al.*, 2006; Puranam and Srikanth, 2007), to cultural compatibility (Chatterjee *et al.*, 1992; Stahl and Voigt, 2004, 2008) and to HR policies and issues (Napier, 1989).

The common ground for both camps is that M&As represent major change events for target organizations and their employees: M&As can profoundly change organizational structures, systems, processes and culture (Buono and Bowditch, 2003). M&A targets generally undergo transformational changes to processes,

routines, and strategies, which can be greatly disruptive for employees and for organizational performance. Although a high degree of integration is often seen as being required for improved resource redeployment and exploitation (King *et al.*, 2004), integration is a highly uncertain process (Bauer *et al.*, 2014). The transformation of organizational processes and routines is highly a stochastic phenomenon whereby employee resistance at different organizational levels has the potential to deviate the change outcome in unexpected directions (Hannan *et al.*, 2003). The disruptive effect of M&As on routines and the increased uncertainty for target employees is likely to negatively affect employees, resulting in reduced commitment and identification with the organization and even the reevaluation of their organizational fit. As I argue throughout this thesis, this effect results in higher employee mobility, both to other established organizations (Chapter 2) and into entrepreneurship (Chapter 3), particularly for employees with high levels of human capital.

Clearly, not all M&As are equal, which is relevant (Bower, 2001). There are a number of dimensions along which M&As can be characterized. For example, M&As are often distinguished by the technological-, industry- and product market similarities of the target and the acquirer. When there is a significant overlap in terms of industry or product market between the organizations, it is generally described as related or horizontal acquisitions. When the target operates in entirely different industries than those of the acquirer, the deal is generally referred to as an unrelated or conglomerate M&A. Another relevant distinction in M&As concerns the national origin of the target and the acquirer: M&As can be either domestic or cross-border. Although a majority of deals are still domestic, the presence of cross-border M&As has increased substantially over the last two decades.

Different types of M&As have been associated with different rationale, antecedents, processes and outcomes. For example, the motives behind related M&As are generally considered to be operational synergies, leading to higher levels of postmerger integration and resource redundancy (Larsson and Finkelstein, 1999; Zollo and Singh, 2004). Unrelated M&As, however, are associated with diversification, technology acquisition or a vertical integration of the value chain, and they are characterized by less overlap of skills, knowledge and capabilities between the target and the acquirer. In general, we expect that the greater the degree of operational and competence overlap between target and acquirer, the greater the degree of post-M&A integration will be to unlock to value of the M&A. Resource redundancy between the two organizations is expected following more extensive organizational integration (Zollo and Singh, 2004), and thus higher levels of integration potentially translate into the shutting down of sites, redundancies and layoffs (Christensen *et al.*, 2011). In this context, employees are likely to perceive a greater risk of being laid off, and they will therefore seek employment opportunities elsewhere. In fact, this increased risk of employee turnover has been found to impede M&A deals (Younge *et al.*, 2014). The extensive integration process in

related M&As is likely to affect not only employee commitment but also the distribution of opportunities within the organizations. These changes, as I argue in Chapter 3, can truncate career development paths and increase the relative attractiveness of entrepreneurship as a career choice.

Cross-border acquisitions are motivated by geographical expansion into new markets, which on the one hand adds an additional level of acculturation, and on the other presents minimal overlap of activities between target and acquirer, and, therefore, limited sociocultural integration is required (Stahl and Voigt, 2008). Cultural difference can have an important effect on the success of M&As (Chatterjee *et al.*, 1992). Differences in national culture can provide unique complementarities in M&As. For example, Morosini *et al.* (1998) argue that acquisitions in culturally distant countries are a unique source of routines and repertoires that are difficult to replicate, providing a potential comparative advantage to acquirers. However, the effect of culture in the context of M&As is a rather complex phenomenon. National and organizational cultures are separate constructs that are associated with different implications for coordination and integration (Stahl and Voigt, 2008). Barkema *et al.* (1996) argue that cross-border M&As are characterized by an additional layer of acculturation, which represents a substantial barrier to the postmerger integration process. Nevertheless, Weber *et al.* (1996) found the effect to be the opposite: while organizational culture differences in domestic M&As had a negative impact on integration and cooperation, national culture differences in cross-border M&As had the opposite effect. Stahl and Voigt (2008) argue that increased attention to cultural differences between acquiring and target organizations lead to less negative integration outcomes than organizational culture differences. The evidence on the effect of organizations' national origin on employees thus appears to be rather mixed. In this thesis, I argue that both domestic and cross-border deals will lead to increased employee turnover. Domestic M&As are associated with higher integration efforts relative to cross-border deals, leading to higher resource redundancy and decreased career opportunities for employees. Cross-border M&As increase the complexity of communication and management by adding an additional layer of acculturation for employees to deal with, leading to increased conflict. Krug and Hegarty (1997) find precisely the latter for top managers, showing an increase in employee turnover for organizations that are acquired by foreign organizations vis-à-vis domestic organizations.

External CEO/TMT replacement

From the perspective of upper echelons theory, Hambrick and Mason (1984) propose that organizations resemble their top management. Managers' strategic decision-making is shaped by their values, as well as knowledge and assumptions about future events, alternatives and the consequences of such alternatives. These cognitive bases are shaped by multiple factors, among them the executives' tenure within the organization. Therefore, sudden changes to the TMT alter the cognitive bases of executives' decision-making, and they are often considered to represent an

inflection point in organizations' trajectories (Quigley and Hambrick, 2012; Tushman and Rosenkopf, 1996).

The organizational origin of incoming executives –whether they come from outside the organization or are promoted from within the ranks- has been singled out as the most significant characteristic of the succession event (e.g., Boeker, 1997; Hambrick and Mason, 1984; Shen and Cannella, Jr., 2002). Hambrick and Mason (1984) argue that external managers have less commitment to the status quo as well as an interest in weakening opposition and building a loyal camp. More generally, the role of successors' origins on postsuccession performance has been attributed to the ability and motivation of external and internal successors to push for changes in strategy and organization (Barron *et al.*, 2011; Karaevli, 2007; Miller, 1993; Quigley & Hambrick, 2012; Shen and Cannella, Jr., 2002; Virany *et al.*, 1992; Weisbach, 1995; Wiersema, 1992). CEOs' origins (outsider versus insider) affect their ability to initiate and implement strategic changes (Zhang and Rajagopalan, 2010). External succession is generally associated with a mandate for change, granting successors the managerial discretion (Hambrick and Filkenstein, 1987) needed to initiate and implement such change. Thus, external succession is generally followed by a stage of organization reorientation and fundamental organizational change, particularly when certain preconditions for change are present (Karaevli and Zajac, 2013). External managers are more likely to implement changes to structure, processes and people than executives who rose through the organizational ranks (Hambrick and Mason, 1984; Miller, 1993).

Barron *et al.* (2011) and Shen and Cannella, Jr. (2002) propose that the insider-outsider dichotomy does not necessarily reflect a decision of continuity versus change. While they argue that external succession is most certainly associated with a mandate for change, the appointment of an insider does not necessarily reflect continuity. Based on the power circulation theory of control, they point out that internal successors can in fact be either followers or contenders: followers succeed a retiring executive whereas contenders follow the dismissal of an executive. Outgoing CEO tenure is a key factor in postsuccession performance as it affects the organizational inertia and disruption caused by the succession event: frequent succession events are a potential disruption for business continuity and performance.

The performance consequences of outsiderness remain contentious, with five decades of empirical studies providing mixed findings (Karaevli, 2007). Outsiders typically have the motivation to implement strategic change: however, the extent to which they will be able to implement such changes will depend on their ability to do so. Challenges presented by senior executives have been found to be an important impediment to new external CEOs' abilities to implement strategic change (Karaevli, 2007). The mandate for change and the motivation of external CEOs to see it through do not necessarily translate into the ability to make such changes. Karaevli and Zajac (2013) argue that corporate stability (ordinary succession, a

long-tenured predecessor CEO, and good organizational performance) is required for external CEOs to be able to set and implement changes. External CEOs' likelihood of generating strategic changes is therefore a joint function of ability and motivation. From this perspective, the question should not be "Does CEO outsiderness generate strategic change?" but rather "*Under what conditions* will CEO outsiderness generate strategic change?" (Karaevli and Zajac, 2013:1270).

As shown in Chapter 4 of this thesis, the impact of external CEO replacement on employees depends both on recent organizational performance and on recent CEO replacement events. Recent organizational performance is one important aspect that affects the ability of new executives to implement fundamental organizational change, as it is a clear indicator of the suitability of current strategies. Thus, poor performance signals that current strategies are ill-suited for the environment and that changes may be required (Boekner, 1997). However, poor presuccession performance makes it easier for outsider CEOs to overcome resistance to change (Boeker, 1997, Zhang and Rajagopalan, 2010). In apparent contradiction, however, a period of poor performance has also been found lead to increased monitoring by the board and shareholders and to decreased discretionary power for the CEO (Finkelstein *et al.*, 2009). Therefore, Karaevli and Zajac (2013) argue that although new external CEOs come with a mandate for change, in the case of poorly performing organizations, this mandate comes with increased monitoring and more limited financial resources. In organizations with strong recent performance, CEOs have more latitude for strategy setting, more abundant slack resources and a board that is more likely to tolerate risks and uncertain changes. Nevertheless, Quigley and Hambrick (2012) find that new CEOs will always feel the pressure and urge to push for change, even in a context of orderly succession and relatively good organizational performance. Therefore, studies of executive replacement should in any case consider presuccession performance to be a relevant variable behind succession outcomes.

Karaevli (2007) argues for the need to bring the context back into succession events: previous organizational performance, external environmental conditions, and simultaneous changes in strategy and other TMT members. Given the potential role of the external environment, particularly the level of turbulence or stability and munificence, it is essential that studies on the impact of outsider succession control for industry-specific factors. Turbulence refers to "instability, or difficult to predict changes in the environment" (Karaevli, 2007:698). Munificence refers to the degree to which the environment enables organizational growth (Karaevli, 2007). It is thus essential to consider environmental factors in studies of the outcomes of executive succession to advance our knowledge of the subject. In the study presented in Chapter 4, we capture effects that might affect all organizations in the economy in a given year through year fixed effects, the effect of operating in a particular industry through industry fixed effects, and the geographical effects of location through location fixed effects. While all these variables capture important fixed effects that

are essential external contextual elements, organization-specific factors can substantially affect the impact of CEO/TMT replacement on employees. We thus include organization fixed effects in all models to control for unobserved heterogeneity across organizations as well as additional controls for organizational characteristics (such as size and age) and past performance (sales and profits). We also control for the simultaneous replacement of other top executives, both internally and externally. However, we recognize that organizational stability and performance might create specific scenarios whereby reactions to executive succession are markedly different. Therefore, we created separate treatments for external TMT replacement and external CEO replacement in the contexts of stability and instability. Stability is defined as no previous TMT succession in the previous time period. In this context, we study external CEO and TMT succession events in stable and unstable contexts. To deepen the analysis of previous performance, we then construct 4 samples with 1-1 matching. The first sample is composed of organizations that experienced a decline in sales from the previous year and either external TMT replacement (treated) or no replacement (control). The second sample (488 organizations) is composed of organizations with declining sales in the previous year that either experienced external CEO replacement (treated) or no replacement (control). The last two samples are analogous but in a context of sales increase. Interestingly, the results in Chapter 4 show that when recent performance is negative, external CEO replacement can actually have a positive effect on employees. Additionally, when previous performance is positive, externally replacing the CEO does not have a negative effect on employees.

Barron *et al.* (2011), argue that while the management research on managerial succession has rightly focused on the whole TMT, and not only the CEO, strategic change is usually implicit and generally not measured. However, they show that strategic change only happens when CEO turnover is couple with other TMT members' departure, backing upper-echelon perspectives that the whole TMT shapes strategy, and not only the CEO. Moreover, they also find that strategic change happens only with contender succession and not with follower succession, which is in line with Quigley and Hambrick (2012). Lastly, Barron *et al.* (2011) also find that outsider succession is related only to strategic change when other TMT members also depart. When other TMT members do not exit the organization, or when the former CEO remains in the ranks, they observe no significant strategic change. Their findings back the notion that contender succession and a mandate for change are directly linked while that is the case only for outsider succession when the CEO exits the organization entirely. Similarly, Quigley and Hambrick (2012) argue that departing CEOs actually often remain at the organization as board chairs. This limits new CEOs' discretion and ability to depart from previous strategies and successfully implement change. Therefore, even when CEOs have a mandate for change, the continuity of the former CEO as board chair restricts new CEOs' leeway to initiate substantive change. Therefore, in our analysis, we focus only on CEOs and TMT members who depart the organization entirely. It is therefore relevant for

executive succession studies to indicate when former executives remain in the organization beyond their stint as top executive members. In the article presented in Chapter 4, we therefore only considered replacement events in which the executive leave the organization entirely. Moreover, we deepen our analysis by considering the effects of simultaneous multiple TMT replacement events on employees.

1.1.2. INDIVIDUAL OUTCOMES OF ORGANIZATIONAL DISRUPTIONS

Employee turnover

The impact of employee turnover (also termed "attrition") on organizational performance has been an area of much research since the late 1970s. The early work by Price (1977), Dalton and Todor (1979), Staw (1980) and Abelson and Baysinger (1984) marked the rise of the consequences of turnover in the management research agenda. The early work showed that although turnover can be costly and harmful, it should only be prevented as long as keeping employees is less costly than letting them go. By the mid-1980s, interest in turnover had declined in the management field. Since the turn of the millennium, however, the research on the consequence of employee turnover for organizations has once more come to the fore (e.g., Hancock *et al.*, 2013, Hatch and Dyer, 2004; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Waldman *el al.*, 2004). The turnover-performance relationship has been researched from a variety of angles, which I broadly define in terms of two camps: the cost-based camp and the resource-based camp.

The cost-based camp represents one of the main streams of research studying the impact of turnover on performance. This is predominant in studies of turnover in the healthcare industry, for example, Buchbinder *et al.* (1999), Jones (2005) and Waldman *et al.* (2004). Buchbinder *et al.* (1999) calculate the direct costs of primary care physician turnover in US institutions, including recruitment, training and average productivity losses. In that case, productivity losses due to, for instance, orientation costs, increased time with patients, and higher use of lab tests and radiological procedures, were by far the main cost at over twice the average physician's annual wage. Jones (2005) focuses on the costs of nurse turnover. Jones (2015) estimates the costs of nurse turnover to amount to between 1.2 and 1.3 times the average nurse's annual wage, the largest item being the costs of temporary replacement and overtime by the remaining staff. Waldman *et al.* (2004) estimates the costs of turnover of both nurses and physicians. They conclude that nurse turnover costs 0.86 times the average annual nurse's salary whereas the figure for physician turnover is in line with Buchbinder *et al.* (1999). Also in line with Buchbinder *et al.* (1999), estimated productivity losses are the largest single cost of turnover. This body of literature suggests that substantial investment in employee retention pays off for organizations since the productivity losses and the costs of hiring and training new personnel are considerable. The cost-based approach generally assumes a monotonic impact of turnover on financial performance while

acknowledging the existence of intangible turnover effects that the research has, to date, been unable to capture.

The second major camp is firmly rooted in the resource-based view of the firm (Barney, 1991). Human (Pfeffer, 1994; Coff, 1997; Shaw *et al.*, 2013) and social capital (Dess and Shaw, 2001; Shaw *et al.*, 2005) embedded in employees and their networks are considered from this perspective to be critical aspects of organizational performance, and employee turnover can potentially erode organizational performance. On the one hand, Dess and Shaw (2001) and Shaw *et al.* (2005) argue that social capital losses are the main factor behind the impact of turnover on organizations. Social capital (the value embedded in relationships) constitutes a unique resource for organizations because it increases communication, trust and the ability to exchange resources. They argue that social capital losses predict performance beyond what can be generally attributed to overall turnover and in-role performance losses due to turnover. Social capital losses from turnover have the potential to undermine the social fabric of the organization, leading to a significant and potentially long-lasting impact on performance. By testing their predictions on an upscale restaurant chain, they indeed find that when turnover is low, social capital losses due to turnover are high, and that is reflected in substantial performance losses. Thus, turnover not only increases costs and inefficiencies in organizations, but it is also costly in terms of lost relationships among people, particularly when those turning over hold critical bridging positions in networks.

On the other hand, the main theoretical lens through which organizational-level outcomes of turnover have been studied is human capital theory. The human capital perspective is that the accumulation of human capital (knowledge, skills and abilities –"KSAs") leads to higher levels of performance. Proponents of human capital theory broadly distinguish between general and organization-specific types of human capital (Becker, 1962, 1994). The human capital perspective is inevitably linked to resource-based views of the firm, by which performance differences across organizations depend on their endowment of valuable, unique and inimitable resources (Barney, 1991). Employee turnover is costly in terms of both general and organization-specific human capital as the hiring and training of employees drain resources from productive uses. When an employee leaves, the return on investment on that employee disappears, with a resulting impact on productivity. In general, it is argued the organization-specific human capital is more difficult to replace and takes the most time to build; it is therefore a key factor in the impact of turnover on organizational performance. Time is required for new recruits to accumulate the level of organization-specific human capital of departing employees.

Shaw *et al.* (2013) adopt a resource-based perspective to analyze the turnover-performance relationship. Particularly when investment in human capital is high, human capital losses are damaging for organizational performance. This is

particularly marked in organizations for which turnover rates are low, and it is less marked in organizations that experience high turnover rates.

Kacmar *et al.* (2006) take a knowledge-based view of the firm (Grant, 1996) as their framework to study turnover as a predictor of unit-level performance on a sample of 262 fast food restaurants of a well-known franchise. Knowledge can be embedded in team routines, i.e., patterns of behavior that require minimal verbal communication among coworkers, for which the more tacit aspects take time to learn. Turnover creates inefficiencies by disrupting the established routines and the consequent loss of tacit knowledge in the workforce. They propose that efficiency fully mediates the turnover-performance relationship such that turnover leads to an immediate effect on efficiency, and sustained inefficiencies lead to poor performance in a second step (i.e., sales, profits). The food service industry is particularly characterized by extreme turnover rates, often in excess of 100% annually. They find evidence that efficiency indeed mediates the turnover-performance relationship and that both "crew" and management turnover had a significant impact on both sales and profits.

Hancock *et al.* (2013) perform a meta-analysis of the relationship between turnover and organizational performance. Their results confirm the negative impact of turnover on performance and that the social and human capital losses from turnover generally outweigh the potential beneficial consequences. Moreover, they find that performance is more strongly affected by losses of organization-specific human capital than of general human capital. They find that the negative relationship between turnover and performance is stronger for managerial employees and in more knowledge- and skill-intensive industries, where social and human capital losses can have the greatest impact. Moreover, in line with Batt and Colvin (2011), they find that the effects of voluntary and involuntary turnover on organizational performance are largely the same. Lastly, their paper provides evidence that the impact of turnover on the financial performance of organizations is mediated by quality and safety outcomes. Thus, they conclude that involuntary turnover may not be entirely functional, as is sometimes believed, most likely affecting financial performance through quality and safety outcomes.

One important finding by Hancock *et al.* (2013) is that they were "forced to treat issues of labor costs and human capital at a rather coarse level (e.g., industry, job levels) because the primary studies do not typically provide enough information about more specific indicators such as salary, and knowledge, skills, abilities, and other characteristics (KSAOs), or tenure" (597). In other words, studies rarely provide measures of employees' human capital in their analysis of turnover.

Hatch and Dyer (2004) study how human capital contributes to learning and how learning can become a source of sustainable competitive advantage. They find that investment in organization-specific human capital indeed has a positive impact on learning and organizational performance. They also find that organizations with high

turnover performed comparatively worse than competitors, revealing the inimitability of human capital as a source of competitive advantage.

The outstanding evidence supports the view that turnover is in general very costly for organizations. In their meta-analysis, Park and Shaw (2013) conclude that there is a negative and significant effect of employee turnover on organizational performance. The evidence most strongly supports human and social capital views of the effects of the turnover-performance relationship.

Aime *et al.* (2010) show that although routines stable over time, the competitive advantage derived from such routines is eroded by key employee mobility. The competitive implication of employee mobility can be substantial both in cases of individual mobility (Aime *et al.*, 2010) and of collective mobility (Wezel *et al.*, 2006). Wezel *et al.* (2006) study the effect of individual and group turnover on the survival of the focal organization. They find that collective mobility (turnover) to a new venture (startup) has the strongest effect on focal organization survival. The recruitment of talent from competitors has become a strategy for overcoming resource constraints and for obtaining competitive advantage derived from employee human capital (Rao and Drazin, 2002). The recruitment of key organizational members is a key mechanism for the transfer and appropriation of routines and resources from rival organizations.

In the context of M&As, the turnover of target top managers has been found to have a negative influence on M&A performance, particularly when the seniority of the replaced managers is high (Cannella and Hambrick, 1993). Keeping the best employees following M&As is generally considered essential for value creation and a major challenge for the acquiring organizations' management (Pablo, 1994). It has in fact been shown that the anticipation of employee mobility significantly affects the likelihood of acquisitions (Younge *et al.*, 2014).

Mental health and performance

Depression is estimated to be the psychiatric disorder with the largest economic impact (Conti and Burton, 1994). Major depression is a common and seriously impairing mental disorder, and it has been argued that by 2020, it will be the second leading cause of disability (Kessler, 2012). Depression affects employee performance both through absenteeism –days of work missed— and presenteeism – time present at work but not working, or at least not working to full capacity (Johns, 2010).

Several attempts have been made to quantify exactly how costly depression is for organizations. Using data from 2 US national surveys, Kessler *et al.* (1999) find that major depression leads to between 1.5 and 3.2 more work-disability days per 30-day period. Adler *et al.* (2006) study the effect of performance and worker productivity in primary care patients. Their results show that depression causes significantly

greater deficits in the management of mental-interpersonal-, time- and output tasks. The impact of depression on work performance is persistent even after symptoms have improved.

Wang *et al.* (2004) study the effect of depression on performance for airline reservation agents and telephone customer service representatives. To minimize recall bias in that study, the participants registered their work performance at 5 random points in time during the day when they are paged by a computerized autodialer. After following the participants for a week, they found that major depression was indeed the only condition that significantly relates to the measured outcomes: task focus and productivity. They estimate that the economic effects of depression were equivalent to 2.3 days of absence due to sickness per depressed worker, a figure that is substantially greater than indicated by the previous findings.

Stewart *et al.* (2003) estimate the impact of depression on labor costs on a cohort of the American Productivity Audit conducted between August 2001 and July 2002. They estimate that the health-related excess loss in productive time was nearly four times for those with depression than for those without depression (5.6 hours/week versus 1.5 hours/week). The great majority of these costs (81%) are due to reduced performance while at work, which is largely invisible to employers.

All these studies have a narrow focus and tend to underestimate the magnitude of the total costs of depression as they do not account for the additional costs incurred by organizations to adjust workloads across units due to the increased work-day loss as well as the potential sales and revenue losses. Nevertheless, it is clear from these studies that depression indeed has a significant impact on worker productivity and, thus, a financial impact on organizations. Even moderate changes in the number of employees with depression can have a substantial effect on performance.

The literature therefore indicates that organizational performance can be substantially affected by employee behavior. Employee turnover translates into lower organizational performance (Hancock *et al.*, 2013; Hatch and Dyer, 2004; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Waldman *et al.*, 2004). The turnover of high performers, in particular, can disproportionally affect performance (Nyberg *et al.*, 2014). For example, in the context of organizational disruptions, the behavior of employees may depend on how they cope with organizational changes (Fugate *et al.*, 2002; Judge *et al.*, 1999; Rafferty and Griffin, 2006; Riolli and Savicki, 2006; Terry and Callan, 1997; Terry and Jimmieson, 2003). Organizational disruptions represent sudden organizational changes that can disturb processes and routines (Barnett and Carroll, 1995; Baron *et al.*, 2001). In M&As, the potential conflict between two organizational cultures represents a major challenge for employees. Indeed, employee reactions to M&As are considered to be the basis for high M&A failure rates –negatively affecting between half (Schoenberg, 2006) and three-quarters (Marks and Mirvis, 2001) of M&A deals.

Entrepreneurship

While most employee mobility occurs between established organizations, employees often choose to instead enter entrepreneurship. As Sørensen and Sharkey (2014) note, the transition from established organizations to entrepreneurship is remarkably common, and the vast majority of entrepreneurs come from established organizations (Burton *et al.*, 2002). Entrepreneurship is often considered one of the main engines of innovation and growth for local and national economies (Audretsch and Keilbach, 2004), and, consequently, it has raised substantial attention from scholars. The definition of entrepreneurship remains contentious, which is not an issue that this thesis will seek to resolve. Instead, I align with the view of Brittain and Freeman (1986) and Sørensen and Sharkey (2014), among others, that the defining factor for an entrepreneur is the act of starting a business. In this thesis, I therefore refer to entrepreneurial entry and new venture formation interchangeably, as the act of starting an organization with no connection to (i.e., equity of) another existing organization.

An important concept in the entrepreneurial entry literature is that of spinoffs, intra-industry spinoffs, or spinouts: these terms are often used to designate specifically new ventures in industries or markets in which the source/parent organization operates. This is the case for the studies presented in this section. The terms spinoff or spinout are also often used as synonyms for new venture formation from organizational units' divestiture (i.e., "corporate" spinoffs) or new ventures controlled by a source organization (e.g., Sørensen and Fassiotto, 2011), which is not the case here. The prominence of spinoffs in the entrepreneurship studies stems from the performance premium attributed to these ventures (Klepper and Thomson, 2010), their role in the evolution of certain industries (e.g., semiconductors, lasers), and the high number of spinoffs among industry leaders (e.g., Chevrolet, Intel, AMD).

In addition to the general economic interest in entrepreneurship, the recent research has shown that this type of employee mobility can have major implications for source organizations' competitive advantage. Two studies (Campbell *et al.*, 2012; Wezel *et al.*, 2006) have particularly addressed the impact of key employees' move into entrepreneurship on the performance of the source organization. Wezel *et al.* (2006) studied the impact of the different mobility events of key employees (partners), and they conclude that the survival of the source organization is most negatively affected by the departure of such employees to start-ups. Such impact is particularly marked when several senior key employees depart together to a new organization given their ability to leverage their social capital but especially due to their capability to replicate successful routines. While noncompete clauses can limit the ability of departing employees to drain the source organization's customer base, their replication of higher-order routines cannot be restrained, and these are more easily reproduced in startups than in established competitors. Spinoffs (intra-industry independent new ventures) are speedier than other startups at mobilizing

resources, inheriting knowledge (Klepper and Sleeper, 2005), and cloning and modifying ideas acquired at their previous organization (Bhide, 1994). Wezel *et al.* (2006) show that intra-industry entrepreneurship is the type of mobility with the strongest competitive implications for source organizations.

Similarly, Campbell *et al.* (2012) study the competitive consequences of employee mobility into entrepreneurship for source organization performance. Based on the notion of complementary assets, they argue that employees' ability to recreate or transfer such assets will determine employees' decision to stay, to leave for a competitor or to form a new venture. Using longitudinal data from the legal service industry, they find that employees departing to create their own venture in the same industry hurt the source organization's performance the most. Additionally, they find that employees who earn the highest income are generally less likely to leave; however, they are more likely to create a new venture when they do leave. Furthermore, the adverse effect of employee entrepreneurship on the source organization increases with the income of the departing employee.

These two studies are highly relevant because they connect microlevel (individual) mobility decisions with macrolevel (organizational) outcomes. Given the competitive implications of entrepreneurship for organizations, regions and countries, it is important to also understand the organizational context within which entrepreneurship is conceived. In other words, there is a need to advance our knowledge of the microlevel consequences of macrolevel disruptive events because individual behavior such as employee mobility has substantial implications for organizations. What motivates employees to leave their jobs in established organizations to start up their own ventures? Is there a specific organizational context that triggers entrepreneurship? Which employees are most likely to move into entrepreneurship in such context? Can organizational disruptions trigger waves of entrepreneurs? These questions drive the research agenda of Chapter 3, "M&As and Entrepreneurship", in which I specifically investigate whether M&As act as triggers to entrepreneurial entry (Krueger *et al.*, 2000), how employees make the transition to entrepreneurship, and how this process differs across M&A types.

The first evidence of the link between organizational disruptions and entrepreneurship can likely be traced back to Brittain and Freeman (1986). Their study of entrepreneurship in the semiconductor industry highlights the link between internal organizational factors and the rate of entrepreneurship. Of the number of factors that they propose affect entrepreneurship, they explore the outcome of two variables that they term "political events". The two identified political events are external CEO replacement and being the target of an unrelated M&A, both of which are expected to have a positive effect on the rate of entrepreneurship. Their findings indeed support the idea that disruptive events that have the potential to "make life difficult, or bode ill for their futures" (Brittain and Freeman 1986: 11) increase the probability of employees entering entrepreneurship. Brittain and Freeman (1986)

provide one of the few studies that present entrepreneurship as an organizational product by directly linking major organizational events to the rate of entrepreneurship. Nevertheless, their paper has a number of limitations, notably the lack of a control group of individuals, their focus on Silicon Valley, and their lack of theorizing on why employees spin out, which I attempt to overcome in the study presented in Chapter 3.

In terms of the empirical link between organizational disruptions and entrepreneurial entry, another relevant study is Buenstorf's (2007) account of the evolution of the German laser industry. Entrepreneurial entry in the form of spinoffs from established organizations was a key feature of the German laser industry's evolution beginning in the 1960s. The link between organizational events and entrepreneurship is described in terms of strategic disagreements, which is in line with Klepper and Sleeper (2005). Buenstorf (2007) describes M&As mainly as an example of events that might motivate employees to spin out, although the account does not delve into the potential mechanisms behind the decision to form a new venture. Although the scope of the study is the evolution of the German laser industry, it offers empirical backing to the notion that some organizational events trigger entrepreneurial entry into the market by the employees of the parent organization.

In their study of spinoff formation in the US laser industry, Klepper and Sleeper (2005) also find that organizations undergoing unrelated acquisitions (i.e., by organizations from outside the laser industry) are more likely to generate spin outs. They argue that changes in leadership as a result of acquisition decreases the probability of organizations recognizing opportunities, which increases the probability of employees spinning out to exploit opportunities unrecognized by the parent organization. However, this is not the case for related acquisitions, in which no such correlation with spinout generation is present. More generally, their model of spinoff formation implies that employees may spin out when incumbent organizations and employees have diverging evaluations of opportunities or incentives to pursue them. For example, an organization may not develop a certain product because it cannibalizes its existing market, whereas new entrants do not have such opportunity cost.

Instead, Klepper and Thomson (2010) propose a model of spinoff formation as a result of strategic disagreements. Based on a series of case studies in the automotive, laser and semiconductor industries, they propose a model in which disagreements over the future strategy of the organization triggers the decision to spin out. In their model, like-minded organizational members receive different information regarding the best future strategic direction and generally communicate until their visions converge. However, when disagreements on the value of ideas arise, there is an opportunity for employees to spin off and pursue the opportunity through the creation of a new venture.

Sørensen and Fassiotto (2011) and Sørensen and Sharkey (2014) contribute to the discussion of employee entrepreneurship from a more sociological perspective. Sørensen and Fassiotto (2011) recognize that the same factors behind individuals' decision to enter self-employment may differ from those factors that lead to the identification and exploitation of innovative opportunities. "Organizations beget organizations", they note, and "in the vast majority of cases, the decision to launch a new venture (or indeed, the decision not to) is made while a person is employed by an existing organization" (Sørensen and Fassiotto, 2011: 1322).

Sørensen and Sharkey (2014) are among those who frame entrepreneurship as a labor market status that depends on the organizational context. They argue that entrepreneurship is a decision shaped by certain organizational characteristics, notably the distribution of opportunity within the organization. The main contribution of their paper is to highlight the role of established organizations' characteristics in employee mobility decisions, as organizations are the context within which entrepreneurship is conceived. Entrepreneurship is understood as a conscious mobility decision made by individuals for the purpose of advancing in their careers, which mainly takes place in the context of an established organization. Entrepreneurship happens when individuals face a relative lack of opportunities for growth at their workplace. This perspective is situational in that the determining factor for entrepreneurship is the structure of choices at a specific point in time. In other words, to understand what motivates entry into entrepreneurship, we should understand what makes entrepreneurship attractive relative to other opportunities.

Overall, understanding how organizational disruptions might be a source of entrepreneurial entry is essential because employees' transition to entrepreneurship can have substantial competitive implications for established organizations. Within this setting, Chapter 3 explores the impact of M&As on entrepreneurial entry.

1.2. METHODS

All the articles presented in this thesis are large-scale quantitative studies. All the studies are based on register data linking individuals and organizations. The main database used in all three articles is the Danish IDA: Integreret Database for Arbejdsmarkedsforskning (Integrated Database for Labor Market Research). The IDA is matched to two other databases: the Zephyr M&A Database (Chapter 2 and Chapter 3), and the Danish database on medical prescriptions (Chapter 4). Below, I describe the main characteristics of the databases and the variables used in the studies. I also describe the methods used to analyze the data and the main strengths and weaknesses of the approach.

1.2.1. THE DATABASES

The IDA is a large panel database that contains information on virtually all individuals in the Danish labor market and all employers that have registered in Denmark since 1980. The data are collected on a yearly basis by Statistics Denmark from state agencies primarily for research purposes, and they are structured in several datasets at the organization- and employee-levels. Some of the most prominent articles in the organizational research that have utilized this register database include Dahl (2011), Nanda and Sørensen (2010), and Sørensen and Sorenson (2007). The IDA is known for the richness of its variables and its comprehensiveness, which makes it particularly suited for objectively tracking individual mobility. Organizational-level variables include location, industry, profits and assets, among others. Individual variables include, for example, income, job tenure, and rank within the organization (based on ISCO-08), as well as demographic variables such age, sex, educational level, marital status and number of children.

Zephyr is a global M&A, IPO and private equity database that has previously been used in a number of articles such as Arora and Nandkumar (2011) and Useche (2014). The database, which is arguably the most comprehensive M&A database to date, is maintained by the Bureau van Dijk's on a constant basis. The data are based on analyst and journalist reports of deals, press releases and filings. It contains data on the majority of M&A deals in Denmark since 2000, and it identifies several interesting characteristics of the deals and deal actors. In the studies presented in Chapter 1 and Chapter 3, the raw data from the Zephyr database are consolidated into a number of variables that identify the targets, the industry relatedness of the target and acquiring organizations, the amount of target equity owned by the acquirer before the M&A, and the national origin of the acquirer. The Zephyr database also provides a wide array of organization- and deal financial data as well as the intermediaries and actors involved in the deals. Much of the data are ultimately not used in the studies presented in Chapter 2 and Chapter 3 for two reasons. The first reason is that they are only available for a subset of deals. The more variables we include in the analysis, the smaller the subset of M&A deals is included. Thus, in the interest of obtaining more generalizable outcomes of M&A deals, some of these variables were left out of the analysis. The second reason is that the merging of the IDA and Zephyr databases is managed by Statistics Denmark, which must ensure that the organizations remain anonymous. Thus, all of the detailed variables had to be converted into categorical or binary variables before the merge, and some variables had to be excluded from the merge. The resulting dataset is a unique deal-organization-employee linked panel. The ability of the data to match individuals to organizations and deals provides a unique opportunity to study individuals' mobility as a result of different deal types.

The other database used in this thesis is the Danish Medical Database. This database, which is also maintained by Statistics Denmark, contains data on all prescription medications in Denmark. The prescriptions are linked to the social security number, which enables the merge with the IDA. The prescriptions of interest in this case relate to those most commonly associated with stress-related symptoms such as insomnia, depression and anxiety, as discussed below. Some of the most prominent studies that have used this dataset include Dahl (2011) and Pierce *et al.* (2013). The combination of the IDA and the Danish Medical Database provides a unique resource to overcome some of the key limitations of measuring the mental health outcomes of organizational phenomena. Widely used techniques such as surveys and interviews can suffer from severe limitations in the study of such sensitive matter since individuals may avoid revealing information regarding their mental health condition. Moreover, publicly available, objective data on the mental health of individuals is scarcely available. This dataset allows for objective measurement if there is a change in the probability of being prescribed stress-related medication due to a specific event –such as those studied in Chapter 4.

Outcomes

The main outcomes studied throughout this thesis are different types of employee mobility. Employee turnover is defined as an employee departing a certain organization from one year to the next, regardless of where the employee goes after departing. This outcome variable is the focus of Chapter 2, which then refines the analysis around the turnover of different groups of employees according to indicators of their human capital and ranks within the organization. Turnover is also one of the two outcome variables of interest in Chapter 4. Turnover is operationalized as a binary variable that takes the value 1 (at t=0) when an employee changes their employer from one year (t=0) to the next (t=1) and the value 0 otherwise. That is, turnover is defined as the employee leaving the organization within the following 12 months.

The second type of employee mobility of interest in this thesis is entrepreneurship. Entrepreneurship is operationalized as an employee leaving an organization to start a new venture that has no equity relationship with the source organization. The term "source organization" refers to the organization that is left by a transitioning employee. Here, it is important to note the two main characteristics defining the entrepreneurial event: the entrepreneur must be a founder of the new venture, and the source organization must have no participation in the new venture.

The last outcome studied is employee stress. The data on stress come from the Danish Medical Database, which is maintained by Statistics Denmark. The prescriptions of medicines typically used to treat stress-related symptoms (insomnia, anxiety, and depression) were traced before and after the treatment. These drugs are selected according to their codes provided by the Anatomic Therapeutic Chemical (ATC) classification system that was produced by the World Health Organization

Collaborating Center for Drug Statistics Methodology. In particular, we identify drugs related to shorter-term insomnia (benzodiazepine-related medication -ATC: N05CF) and longer-term insomnia (benzodiazepine derivatives -ATC: N05BA), on one hand, and anxiety and depression (selective serotonin reuptake inhibitors- ATC: N06AB) on the other. The variable Stress is a dummy variable taking the value 1 if the individual was prescribed with stress-related medication that year, and zero otherwise.

Treatments

The main treatment in the studies presented in Chapter 2 and Chapter 3 is "working for an M&A target". Individuals are considered "treated" if they work in an organization when it is an M&A target. Individuals who join the organization after an M&A are therefore not considered treated because they did not work for the organization at the time of the event. Similarly, individuals who left before the M&A were also not considered treated. The main treatment is then refined according to the type of M&A. The types considered in these studies are: Domestic versus cross-border M&As, related versus unrelated M&As, and outright versus gradual M&As.

Domestic M&As are those in which both the M&A target and acquirer are based in Denmark. Cross-border M&As refer to deals in which the acquiring organization is not based in Denmark. The degree of industry overlap, based on NACE codes, is taken as the measure of relatedness between the target and the acquirer. Closely related M&As are those where the 4-digit NACE code of the primary ('core') industry of target and acquiring organizations are the same. Related deals are those in which any of the industries in which the target operates overlaps with any of the industries of the acquirer, based on 2-digit NACE codes as the precision of secondary industries is often reduced in the dataset. Broadly related deals are those for which only secondary industries of the target and secondary industries of the acquirer overlap. Unrelated M&As are deals for which the industry of the target and acquiring organizations do not overlap at all, considering the 2-digit NACE classification. Outright M&As refer to the acquisition of a majority stake of the target organization with no previous equity ownership by the acquiring organization. Gradual M&As refer to deals in which the acquiring organization previously had some form of equity participation before acquiring a majority stake.

The full list of industries in which organizations operate, as well as the precise nationality of the acquirers and their equity participation in the target, are restricted by Statistics Denmark in the matching process with the M&A dataset to prevent the perfect identification of organizations.

The main treatment in the Chapter 4 study is the external replacement of CEO/TMT members. Employees are considered treated if they work for an organization when it undergoes external CEO/TMT member replacement. TMT is operationalized as the

five top-paid managers in the organization. This is in line with previous studies of top management teams, although there is considerable variation in the criteria used. Barron *et al.* (2011), for example, identify the TMT as the highest paid 3 executives after the CEO. Boeker (1997), on the other hand, considers the TMT to comprise all individuals who report directly to the CEO. External replacement is defined as joining the CEO/TMT rank directly from outside the organization. This is also in line with the previous research (e.g., Shen and Cannella, Jr., 2002), although other researchers have also adopted less restrictive definitions of outsiderness (e.g., Quigley and Hambrick, 2012).

1.2.2. EMPIRICAL STRATEGY

The main identification technique used to analyze the dataset throughout this thesis is the difference-in-differences (DD) regression. The DD is used to simulate an experimental research design with panel data. It is an identification strategy that is particularly suited to studying events that are exogenous (i.e., out of the control) of individuals as it compares the situation before and after the event (i.e., treatment). The difference-in-differences coefficient captures the difference in the change in probability that the outcome variable will take a specific value for the treated and control groups. That is, it captures the change in probability that is due to the treatment. Logit models are used given the binary nature of the outcome variables (i.e., leave/stay, stress/no stress). Generically, the regression model can be written such that

$$Y_{ijt} = \alpha + \gamma T_j + \mu d + \delta(T_j . d) + X'_{ijt} + \varepsilon_{ijt}$$

where *i* denotes the individual, *j* the organization, *t* the time period, *T* the treatment (dummy), *d* a dummy for observations posttreatment, *X* a vector of the control variables, and ε the error term. The main coefficient of interest here is δ, the DD estimate, which represents the change in outcome for an individual due to the treatment. If B is treated and A is in the control group, the DD estimate is as follows:

$$\hat{\delta} = \left(\bar{y}_{B,t+1} - \bar{y}_{B,t}\right) - \left(\bar{y}_{A,t+1} - \bar{y}_{A,t}\right)$$

This is the difference in means for the treated before and after treatment minus the differences in means before and after treatment for the control group. The method is discussed in the specific chapters; however, here I highlight some of its strengths and weaknesses. One of the strengths of the difference-in-differences method used through this thesis is that the treatment and control groups are allowed to differ as long as the potential outcomes are independent of treatment assignment, a property that is known as conditional ignorability. In short, given a set of (observable) variables, the treatment assignment (e.g., working for an organization that is the target of an M&A) is independent of the potential outcomes (e.g., employee

mobility). There are several ways to account for the probability of treatment and increase the confidence on the conditional ignorability assumption. The ones used in this thesis are the inclusion of a number of lagged and nonlagged control variables as well as sample matching based on a propensity score. Both methods rely on the assumption that observed variables capture the treatment assignment and that unobserved variables only affect the outcome through the treatment.

Methodological concerns that fall under the term "endogeneity" generally permeate the social science research. For example, in the case of the study presented in Chapter 4, a potential concern could be that of omitted variable bias: that a third, unobserved, variable is causing both the treatment (external TMT member recruitment) and the consequences (employee stress and turnover). The most evident variable in this case is the performance of the organization prior to the recruitment of new TMT members. In other words, employees may be under stress or leave the organization due to poor organizational performance, which also causes the external replacement of top executives (Boeker, 1997; Shen and Cannella, 2002). To capture the direct effect of previous performance on the outcome (that is, not through the treatment), the Chapter 4 study controls for various measures of previous organizational performance. A similar approach is also followed for the studies on M&As presented in Chapter 2 and Chapter 3, where organizations are also either matched on covariates or on propensity scores. Generally, organization fixed effects are included in all analyses to control for unobserved, time-invariant organizational factors, partly addressing the omitted variable bias concern.

As mentioned above, one of the strengths of this research is that it is based on objective quantitative data. Using register data enables the study of employee stress, turnover and entrepreneurship based on objective measures, thus avoiding the common limitations of, for example, surveys –from selection to recall issues. However, this strength is not without limitations. The most notable among those is the inability to show the precise mechanisms that drive behavior. Whereas we can measure the impact of a given treatment (such as M&As) on a behavioral outcome (such as entrepreneurship), we cannot specifically show the mechanism through which treatment leads to outcome. In that respect, the studies presented here can only present plausible explanations that are likely to describe the phenomenon under study.

1.3. CONCLUSION

In the three studies that compose this thesis, I investigate the impact of M&As and external CEO/TMT replacement on employee stress, turnover and entrepreneurship. Overall, the findings of the studies presented in the different chapters support the notion that these organizational events indeed lead to individual-level outcomes that are disruptive for employees and organizations. The results reinforce the notion that organizational changes can be disruptive for employees and significantly affect their

mental health and careers. First, I find that employee turnover unambiguously increases as a result of M&As. However, a more granular analysis shows a "last-in-first-out" scenario and does not back up the notion that top employees depart *en masse* following M&As. Consequently, one must question to what degree accounts of human capital drain following M&As are representative of a wide set of organizations. The narratives of top employees departing following M&As might be compounded by the fact that top-performing employees are relatively more visible in the labor market in general, and they are therefore highly mobile (Groysberg *et al.*, 2008). Nevertheless, I find that the mobility of top-performing employees is not particularly increased by M&As. The findings also reinforce recent evidence that M&A deals can be put off by potential employee mobility (Younge *et al.*, 2014) as organizations consider human capital retention key to value creation in deals (Pablo, 1994). The findings also indicate that employee turnover is mainly involuntary as organizations integrate operationally in the quest for synergy realization and as those who leave have relatively low human capital.

Second, I find that M&As indeed increase the transition to entrepreneurship for the employees of target organizations. This finding supports and extends the previous studies on entrepreneurial entry in high-tech industries, which have considered M&As to be a relevant factor (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper, 2009; Klepper and Thomson, 2010). It also shows that this transition is particularly marked for employees in managerial positions, who are arguably closest to the ceiling in the internal opportunity structure (Sørensen and Sharkey, 2014). For managers, M&As increase the attractiveness of entrepreneurship as a career choice, triggering the transition to entrepreneurship. This finding is all the more interesting given that, in Chapter 2, I find that, in contrast with the previous findings, M&As do not increase managerial turnover in general (Krug and Hegarty, 1997; Walsh, 1988; Walsh and Ellwood, 1991). Taken together, the results from the studies in Chapter 2 and Chapter 3 indicate that managers are not more prone to moving in general as a result of M&As but that they are more likely to choose entrepreneurship if they do move. The sudden increase in the span of control due to an M&A means that managers' advancement opportunities are curtailed, translating into higher entrepreneurial entry rates. Nevertheless, one key finding of this thesis is that the impact of M&As on entrepreneurial transition is short-lived. The increase in entry following M&As disappears over time; thus, entrepreneurial transition becomes insignificant in the longer run. On average, once managers leave the organization to found their own ventures, the remaining managers are no longer more likely to transition to entrepreneurship. The implications of this finding are mostly practical: managers whose career trajectories are truncated by an M&A will seek to transition to entrepreneurship quickly, and the organization will not continue to bleed out managers in the medium term. This is important as the loss of managerial talent has often been reported as a consequence of M&As (Cannella and Hambrick, 1993; Walsh and Ellwood, 1991; Younge *et al.* 2014) and as a potential cause behind their lack of success (Cartwright and Schoenberg, 2006; Marks and Mirvis, 2001).

Third, I find that not all M&As are equal, which is relevant for employee mobility. The effect of M&As on mobility varies greatly depending on the deal characteristics, particularly the level of industry relatedness between target and acquirer in M&As. The M&A literature indicate that the closer the degree of relatedness, the higher the levels of integration needed to fully unlock the value of the deal (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004). Higher levels of resource redundancy and a greater span of control for management would suggest that the higher the integration, the stronger the effect on mobility. I find that employee turnover indeed increases with the level of industry relatedness between target and acquirer: the greater the overlap, the stronger the effect on employee turnover will be. The effect of industry relatedness is the same for entrepreneurial entry, baring one major difference: closely related M&As have no effect on entrepreneurial entry. This suggests an identified countervailing force at play that generates a boundary condition or even a U-shaped relationship between industry relatedness in M&As and entrepreneurial entry. Potential explanations for this effect include noncompete contractual clauses (Wezel *et al.*, 2006) or economic incentives (e.g., vested stock) to discourage employees' transitions to entrepreneurship. It is also possible that closely related deals are impeded when the risk of entrepreneurial transition is high, thus precluding the effect of closely related deals on entrepreneurship, which is in line with findings by Younge *et al.* (2014) on overall employee mobility. Lastly, pursuing a gradual M&A approach is an effective means of avoiding employee turnover. Equity alliances that gradually increase the involvement of the acquirer in the M&A target in effect reduce the impact of M&As on employee turnover, possibly by reducing adverse partner selection (Reuer and Ragozzino, 2008) and providing enough time for employees to adapt their perception of fit with the new organizational image (Holtom *et al.*, 2005).

In general, less difference can be attributed overall to the country of origin of the acquirer, as both cross-border and domestic M&As similarly increase employee mobility. This finding is in line with the growing evidence that the heightened attention to culture in cross-border deals prevents conflict and enhances cooperation (Stahl and Voigt, 2008; Vaara *et al.*, 2012; Weber *et al.*, 1996). The main difference between domestic and cross-border M&As resides in who is most affected, with domestic M&As having a stronger effect on technical workers and professionals and cross-border M&As having a stronger effect on blue-collar employees. The findings do not particularly shed light on a differential impact of organizational or national cultural differences (Stahl and Voigt, 2008; Weber *et al.*, 1996). They do indicate, however, that an outcome of cross-border deals can be the substantial redeployment of blue-collar jobs to other locations.

The third article of this thesis, coauthored with Michael S. Dahl, explores a second strategy used to achieve organizational change: namely, external TMT replacement. We consistently find that external TMT-member replacement increases employee

stress and turnover and that external TMT-member replacement in unstable contexts increases employee turnover irrespective of the organizational performance in the period leading up to the replacement. These findings are in line with the upper-echelon view of the firm, by which the whole TMT shapes the organization and its strategy and does not support views that either positive or negative organizational performance is a prerequirement for change (Boeker 1997, Zhang & Rajagopalan 2010, Karaevli & Zajac 2013). Performance is relevant, however, in regard to external CEO replacement. In a context of positive organizational performance, external CEO replacement does not have a significant impact on employee turnover or stress, irrespective of CEO replacement in the previous years. When the previous performance is negative, external replacement and a context of stability interact thus externally replacing the CEO actually *reduces* employee turnover in a stable context, –i.e., when there was no executive replacement the year before. Taken together, this is evidence that CEO succession is least disruptive for employees when the organization is performing strongly, and it is even positive in periods of poor performance when there has been no recent executive replacement.

Another major finding is that joint replacement events involving internal CEO replacement increase employee turnover whereas joint replacement events involving external CEO replacement decrease turnover. We believe that two mechanisms could be at play in this case: first, it may be a timing issue as employees wait to have more information on the new external CEO's and the remodeled TMT's potential impact on the organization, and as the new executives in turn learn more about the organization before embarking on major changes. This would be consistent with cases such as Louis V. Gerstner,, Jr.'s tenure as CEO of IBM (Karaevli 2007). Second, it is possible that internal "contender succession" –whereby the CEO is forced to step down as a result of power struggles and is replaced internally– can be more disruptive for employees that external CEO replacements when coupled with TMT restructuring. With their more in-depth knowledge of the organization, internal "contenders" would be in a position to initiate change swiftly after their appointments, bringing in new TMT-members to overcome opposition to change. This is in line with Shen and Cannella, Jr. (2002), who show that internal contender succession will have the most immediate impact on organizational performance as contenders begin with a better understanding of the required changes and how to harness internal support than external candidates. This second possible mechanism raises some questions regarding the extent to which executives' "outsiderness" is a meaningful trait in cognitive terms as initially theorized. If external CEOs bring in fresh perspectives and cognitive schemas that have a substantial impact on the organization, then why does the joint external replacement of the CEO and other TMT-members not have an impact on employee stress and turnover while internal replacement does have an impact? Further, the argument of internal political resistance to new external CEOs does not seem plausible because members of the TMT are also replaced in this scenario, paving the way for the new CEO to establish his or her own agenda. Overall, on one hand, the evidence supports the notion of

"contender" succession as the most disruptive type for employees and, on the other, calls for a re-examination of the factors of outsiderness that may determine the impact of external successors on employee turnover and stress.

This paper informs two contemporary discussions. First, it contributes to the debate on the impact of organizational changes on employee turnover and mental wellbeing (Dahl 2011, Ferrie *et al.* 1998). Second, it expands the discussion on the outcomes of CEO/TMT-member recruitment (i.e., Georgakakis *et al.* 2017, Karaevli & Zajac 2013, Karaevli 2007, Shen & Cannella Jr 2002, Williams *et al.* 2017, Barron *et al.* 2011, Quigley & Hambrick 2012) by considering its impact on individual employees throughout the organization. We show that external CEO/TMT-member recruitment has significant implications for employee turnover and, to a lesser extent, employee stress. Given the well-established link between employee turnover and organizational performance (Kacmar *et al.* 2006, Shaw *et al.* 2005, Park and Shaw 2013), the effect of external recruitment on turnover is indeed an important finding. Organizations' decision to hire new CEO/TMT-members should account for increased levels of employee turnover as a consequence of external recruitment, and the potential associated costs shall be considered in the executive hiring decision.

The panel datasets used throughout this thesis enable us to overcome common methodological limitations by enabling the consistent and objective tracking of individual mobility patterns and the prescription of medicines related to stress for the entire Danish population. Access to linked data on medicine prescriptions on this scale provides an exceptional opportunity for analyzing the mental health outcomes of organizational disruptions. However, the strength of the data comes with some limitations. First, there are limits in terms of the population it studies as the Danish labor market is considered to be particularly flexible. There are relatively low barriers to switching employers since, for example, holidays and pension schemes are transferable from one employer to another. It is possible that employees in other labor markets with higher costs of switching employers will be less prone to changing, instead leading them to cope with organizational disruptions in other ways. Nevertheless, the overall mobility rates of Danish employees have been shown to be comparable to those of employees in the US (Dahl and Sorenson, 2010). This means that employees are at the very least no more restricted in their movement than in other major developed economies. However, the small size of the labor market limits the number alternative potential employers in a given industry and in a given geographical area. This is partly offset by the high geographical mobility of individuals in Denmark; however, it is nonetheless exacerbated by the fact that M&As reduce the number of employers in the industry. All things considered, it is possible that the findings would not be much different in the context of other developed economies as long as the average effect across a wide set of industries is considered.

Another limitation of the empirical setting is that, while we demonstrate the phenomenon, we are unable to disentangle the exact mechanisms behind it. This applies to all the studies of this thesis. We propose a series of plausible mechanisms behind the effects of M&As and external CEO/TMT replacements; however, we are not able to dismiss all alternative mechanisms. It is also a limitation of this thesis that we cannot observe potential coping mechanisms other than stress and mobility. It is possible that individuals used other means for coping with change besides turnover such as engagement in negative organizational citizenship behaviors, absenteeism, a lack of organizational commitment, or abuse of alcohol or other substances. It is also possible that a number of employees abuse of other substances such as alcohol to cope with stress, anxiety and depression, which we cannot observe in the dataset. We are able to measure only a reduced, albeit significant, number of outcomes of organizational change on wellbeing, which is likely to underestimate the true impact of these organizational events on employees.

Overall, this thesis sheds further light on the consequences of organizational change on employees. It contributes to the literature on employee mobility (Campbell *et al.*, 2012; Sørensen and Sharkey, 2014; Wezel *et al.*, 2006) and the outcomes of M&As (King *et al.*, 2004; Krug and Hegarty, 1997; Marks and Mirvis, 2001; Paruchuri *et al.*, 2006; Younge *et al.*, 2014) by showing if and when M&A deals lead to employee turnover and entrepreneurial entry. Furthermore, it contributes to the growing literature on the mental health consequences of organizational change (Dahl, 2011; Ferrie *et al.*, 1998). In doing so, it moves us a step closer in the understanding of what happens when organizations embark on transformational processes. Do M&As fail because of the human capital depletion as a result of the deal? On average, this is likely not the case. Do M&As trigger entrepreneurial entry? The answer to that question is yes, particularly by managers but not in all types of deals. Does external CEO-TMT replacement increase employee stress and turnover? Generally, yes –and so does "internal contender" CEO replacement. However, this thesis only begins to address the individual-level outcome of major organizational events, leaving just as many unanswered questions along the way. Nevertheless, I hope it contributes, albeit modestly, to our overall knowledge of the consequences of organizational change on employees.

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Chapter 2. M&As and employee turnover: who's leaving?

***Abstract**: With the worldwide growth of mergers and acquisitions (M&As), a number of studies in recent years have called their relative success into question. One reason for the poor performance of a number of deals may be negative employee reactions, such as employee turnover. Despite the widespread perception that M&As often lead to employee turnover, there is surprisingly weak empirical support provided in the literature. In particular, we know notably little regarding the characteristics of those who are departing. In this study, I address this gap by using a unique dataset resulting from the merger of Bureau Van Dijk's Zephyr M&As database and Danish register data. Additionally, I explore the heterogeneous effect of different types of M&As across employee groups. I find that M&As generally increase the probability of employee turnover, particularly for employees with relatively low human capital. Nevertheless, the effect varies significantly for different types of M&A.*

2.1. INTRODUCTION

Mergers and acquisitions (M&As) have become a major growth strategy for organizations across the globe: Since the turn of the century, over half a million M&A deals worth over $54 trillion have been announced worldwide (Thomson Financial, 2018). Whether it is to acquire new technologies or intellectual property (e.g. Ahuja and Katila, 2001; Cassiman *et al.*, 2006), to expand geographically (e.g. Barkema and Vermeulen, 1998; Chen, 2008; Harzing, 2002; Wang, 2009) or to consolidate production and distribution (Christensen *et al.*, 2011), M&As are a well-established growth strategy. Despite their popularity, however, the success record of these deals has been called into question. The seemly high failure rate –as high as to 70-90% according to Christensen *et al.* (2011)- has naturally sparked an intense academic debate, but there are still no conclusive answers as to what factors predict M&As' success (King *et al.*, 2004).

A number of authors have argued that negative employee reactions to deals are behind the high proportion of M&A failures (e.g. Cartwright and Schoenberg, 2006; Davy *et al.*, 1988; Levinson, 1970; Marks and Mirvis, 2001; Schuler and Jackson,

2001). A potential reaction with direct impact on organization performance is employee turnover (Hancock *et al.*, 2013; Hatch and Dyer, 2004; Kacmar *et al.*, 2006; Park and Shaw, 2013). Employee turnover affects organizational performance through operational disruptions and the erosion of the organization's human (Shaw *et al.*, 2013) and social capital resources (Dess and Shaw, 2001; Shaw *et al.*, 2005), especially when those leaving are high performers (Nyberg, 2010), and when it happens in a short period of time (Heavey *et al.*, 2013). Human capital resources in particular are locally scarce and difficult for competitors to imitate, due in part to their specificity and the tacit nature of knowledge and in part to the complexity of human capital combinations (Ployhart and Moliterno, 2011; Ployhart *et al.*, 2014). As both individual and collective turnover erodes the organization's competitive advantage and survival (Aime *et al.*, 2010; Wezel *et al.*, 2006), human capital retention in the organization may be a major factor in a deal's outcome. Pablo (1994) argues that the preservation of key strategic resources and skills that form the foundation of value creation is essential for achieving value in M&As. In fact, the mobility potential of employees in target organizations reduces M&A likelihood (Younge *et al.*, 2014), indicating that potential employee movements indeed matter in M&A deals.

But can the erosion of human capital through employee turnover following M&As be behind their failure to achieve the expected results? Despite anecdotal evidence and the widespread notion that M&As lead to employee turnover, particularly among top performers, surprisingly little research has explored it empirically. Research has focused almost single-handedly on (top) management (Cannella and Hambrick, 1993; Fried *et al.*, 1996; Krug and Hegarty, 1997; Walsh, 1988; Walsh and Ellwood, 1991), using research designs that did not include control groups or that studied a single organization (Iverson and Pullman, 2000). Much less is known about the effect of M&As on the mobility of other employees, such as technical workers (Paruchuri *et al.*, 2006), or the value of the departing employees for the organization. Studies of employee turnover rarely identify the quality of the employees who leave (Nyberg, 2010); most studies treat turnover and its effect on performance as a uniform phenomenon, despite low performer turnover possibly being sometimes functional or beneficial for the organization (Dalton *et al.*, 1982). In this study, I address this gap by exploring both whether M&As have a widespread impact on employee turnover across the organization and who is most impacted. For this I use a combination of the Danish panel database known as the Integrated Database for Labor Market Research (IDA) with Bureau van Dijk's Zephyr M&A database. I examine the effect of M&As on employee turnover through difference-in-differences and fixed effects regressions on a sample of employees working in 2,983 organizations from 2001 to 2010.

Scholars have argued that M&As are not a single organizational phenomenon but rather a number of qualitatively different transactions (e.g. Bower, 2001; Christensen *et al.*, 2011; Larsson and Finkelstein, 1999), which can thus have

different impacts on employees. Despite this recognition, research on how different types of M&As affect employee turnover is non-existent. To address this gap, I additionally explore how industry relatedness, country of origin, and acquirer's previous stake in the target influence the effect of M&A on employee turnover in a follow-on analysis. I approach the effect of deal type on turnover with a largely inductive empirical approach (Helfat, 2007; Oxley *et al.*, 2010). Rather than proposing a set of testable hypotheses, I provide a more informal theoretical discussion that gives context to the empirical analysis, followed by a discussion of what the evidence reveals (Helfat, 2007).

This article is the first to look into the comprehensive effect of M&As on employee turnover throughout the organization, advancing our knowledge of who leaves following M&As. One limitation of this article in particular is that the theoretical explanations for why employees leave following M&As are not directly tested. Rather, I develop a set of plausible propositions regarding the link between M&As and employee turnover based on the extant literature. As such, I do not claim that these are the only possible explanations to the phenomenon that could have been proposed a priori.

2.1. WHY EMPLOYEES LEAVE FOLLOWING AN M&A

Organizational growth through mergers and acquisitions is pursued for a variety of reasons. M&As are used as a means of market entry (Bower, 2001; Harzing, 2002), for technology acquisition and innovation and to expand capacity and increase efficiency –often referred to as synergies (Chatterjee, 1992; Christensen *et al.*, 2011; Larsson and Finkelstein, 1999). The rationale behind M&As is likely to influence both what organizational changes will ensue, and therefore also how employees will perceive the deals. A high degree of integration is often seen as necessary for resource redeployment and exploitation (King *et al.*, 2004). Integration refers to "changes in the functional activity arrangements, organizational structures and systems, and cultures of combining organizations to facilitate their consolidation into a functioning whole" (Pablo, 1994, p. 806). In general, the larger the potential for synergy realization, the greater the level of organizational integration expected following M&As (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004). As the new organization strives to leverage the synergies from the merger, employee turnover is likely to increase through lay-offs as part of the organization's restructuring (Chatterjee, 1992).

Post-merger integration is a multifaceted and dynamic process, which involves on the one hand strategic integration of activities and resources to create value, and social and cultural issues on the other (Graebner *et al.*, 2017). During the sociocultural post-M&A integration process, there are also a number of reasons why employees may leave an organization voluntarily. In this study, I propose three mechanisms behind that phenomenon: disruption of organizational routines and

change to core organizational features (Baron *et al.*, 2001; Hannan and Freeman, 1984; Hannan *et al.*, 2003), breakage of psychological contracts (Morrison and Robinson, 1997; Rousseau, 1989), and shocks to the individual's organizational identification (Holtom *et al.*, 2005; Lee *et al.*, 1996; Van Knippenberg *et al.*, 2002).

Just as M&As can "create value by disrupting routines and providing new organizational and technical components that can be combined in novel ways" (Graebner *et al.*, 2017, p. 6), disrupting routines comes at a cost. Organizations tend to develop and perpetuate a set of norms and values that are increasingly difficult to change (Hannan *et al.*, 2003). Organizational ecologists argue that individuals are inherently resistant to change, thus changing deeply engrained organizational values and norms is likely to have adverse effects on them (Baron *et al.*, 2001; Hannan and Freeman, 1984). This resistance to change means that employees at different levels will not simply accept the change and will exert effort to shape its intended outcome (Hannan *et al.*, 2003). Organizational change thus becomes a stochastic process with possible unintended outcomes (Hannan *et al.*, 2003). Feedback leads to further changes to correct for such unintended results, causing more instability and uncertainty for employees. This uncertainty surrounding change can be a significant source of anxiety and stress that damages employee well-being (Bordia *et al.*, 2004), thereby increasing their intention to leave the organization (Schweiger and Denisi, 1991). Thus, the changes that follow M&As can disrupt organizational processes and routines and will frequently be met with resistance throughout the organization (Hannan *et al.*, 2003), causing emotional reactions (Vakola and Nikolaou, 2005) and potentially increasing conflict and employee turnover.

Organizational psychologists argue that major change processes increase the likelihood of breaching implicit psychological contracts and previous agreements between employers and employees (Morrison and Robinson, 1997; Rousseau, 1989), leading to lower organizational commitment, increased absenteeism and employee turnover. Employees gradually develop an implicit set of expectations regarding mutual obligations with the organization. These expectations are not necessarily written anywhere but are nonetheless part of the working culture and values of the workplace. In fact, Montes and Zweig (2009) show that what the management promises may matter much less for employees than the fit between their expectations and the actual outcomes. Psychological contracts are breached by an employer's failure to fulfil the set of implicit expectations developed by employees, independent of whether these have actually been promised or not. Major change processes often breach these contracts as they are often crafted by the top management team with limited consideration for the agreements and expectations developed at the lower levels of the organization (Shield *et al.*, 2002). Empirically, major alterations of psychological contracts and perceived breaches to employer's obligations have been shown to ensue from M&As (Bellou, 2006). Such violations often translate into emotional reactions, engaging employees in uncivil behaviour that may further undermine the work environment and increase employee turnover.

M&As are significant events both for organizations and for their employees. As such, they can be pivotal moments for employees' organizational identification (Van Knippenberg *et al.*, 2002). Changes to organizational identity can trigger the re-evaluation of identification, and employees may question whether they want to continue being part of the organization (Holtom *et al.*, 2005). Lastly, Holtom *et al.* (2005) and Lee *et al.* (1996) propose that turnover is usually caused by shocks rather than by job dissatisfaction. While most research on turnover has focused on job dissatisfaction, they argue that turnover is usually caused by sudden events, such as an unsolicited job offer or being passed over for promotion. Job satisfaction before the shock may often be completely irrelevant to the decision to leave the organization. Shocks are sufficiently relevant events that make individuals question whether they should quit an organization, regardless of how satisfied they were previously. Shocks can elicit positive, neutral or negative emotion, and they do not necessarily originate from the organization -but they often do. Organizational M&As provide a widespread example of such a shock to employees (Holtom *et al.*, 2005). Cognitive appraisal plays a key role in employees' reaction to a shock (Holtom *et al.*, 2005); it determines whether the employee views change as negative or positive. A negative appraisal signifies that the employee perceives change as a threat; thus, organizational change becomes a source of stress (Fugate *et al.*, 2002).

Empirical studies on the consequences of M&As have also generally found a negative impact on employee wellbeing, particularly on job security and intention to leave (Bordia *et al.*, 2004; Schweiger and Denisi, 1991). Focusing their analysis on middle-managers, Fried *et al.* (1996) found that feelings of loss of control, identification with employees who were laid off, feelings of unfairness, and the perception of detrimental career changes contributed to their psychological withdrawal, increasing their intention to leave the organization. These results further reinforce the expectation of M&As' impact on employee turnover.

However, the perspective that employee reactions to M&As are generally negative has also been challenged in recent times. In particular, Teerikangas (2012) found that in six of eight case studies of Finish multi-national acquisitions, reactions tended towards motivation rather than uncertainty. Employees' behaviour as a response to M&As may depend to a large extent on their cognitive appraisal of the changes and how they cope with them. Coping refers to how individuals handle stressful situations that affect their well-being. Specifically, it is the effort exerted to manage the internal and external demands, fruit of the interaction with the environment that taxes or exceeds the individual resources (Folkman *et al.* 1986). Employees may cope with M&As in substantially different ways, and insofar as employees of target organizations perceive a M&A as an opportunity, it is possible that negative reactions to the deal will be limited. Nevertheless, most of the evidence on employee reactions to M&As indicates that these can be dramatic events in their employment careers (Cannella and Hambrick, 1993; Holtom *et al.*, 2005; Krug and Hegarty, 1997; Walsh, 1988; Walsh and Ellwood, 1991). In times of M&As, by

most accounts, employees in the target organization will tend to distance themselves and use withdraw as a coping mechanism, leading to lower commitment and higher chances of turning over than before (Bellou, 2006; Schuler and Jackson, 2001). Thus, all in all, I expect that M&As increase the probability of employee turnover.

2.2. WHO LEAVES AND WHY IT MATTERS

Human capital differs from other resources since it requires motivation and satisfaction with current and future conditions (Coff, 1997; Coff and Kryscynski, 2011). Perhaps the most pressing challenge for management is that these employees are mobile; they may well depart one day and never return. This particular characteristic has triggered considerable interest in the consequences of employee mobility on organizations, with the great majority of studies finding a negative relationship between employee turnover and organization performance, survival and competitive advantage (Aime *et al.*, 2010; Hancock *et al.*, 2013; Hatch and Dyer, 2004; Heavey *et al.*, 2013; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Wezel *et al.*, 2006). Sudden increases in employee turnover can be particularly disruptive for performance (Heavey *et al.*, 2013), quickly eroding the organization's human capital –the knowledge, skills, abilities and other characteristics that are relevant for economic output (Ployhart *et al.*, 2014).

Even though employee turnover can be very costly, not all turnover has the same consequences, as employees are not all equally valuable for the organization (Nyberg, 2010; Ployhart *et al.*, 2014). The impact of employee turnover on the organization likely depends on the characteristics of those employees leaving. The quality of employees' human capital –the aggregation of different employee dimensions, such as knowledge, skill, abilities and other characteristics (Nyberg and Ployhart, 2013)- is just as relevant as its quantity for organizational performance (Dalton *et al.*, 1982; Nyberg and Ployhart, 2013; Shaw *et al.*, 2005). Turnover by employees with high human capital are particularly concerning, since the preservation of key strategic resources and skills form the basis of value creation in M&As (Pablo, 1994). An increase in turnover of high human capital employees would indicate that indeed human reactions to M&As are affecting organizations' human capital resources and therefore undermining the performance of the resulting organization.

The literature on employee mobility observes that "star" performers –individuals who are considered to be disproportionally productive- are more visible on the labour market than their colleagues and are therefore highly mobile (Groysberg *et al.*, 2008). Similarly, this also applies to key inventors –those with disproportionate patenting output- who have been found to leave more frequently following corporate acquisitions than lower-performance inventors (Ernst and Vitt, 2000). Organizations may therefore be more vulnerable to losing star performers and key inventors following M&As given the higher visibility on the market.

Conversely, if the rationale of an M&A is to increase efficiency by decreasing operational costs, it is possible that the profile of the departing employees be quite different. While preserving key human capital resources might still be a goal in those deals, the pursuit of operational synergies can result in widespread redundancies at most levels of the organization. The higher the level of integration required, the higher the resource redundancy will be (Zollo and Singh, 2004). In cases of extensive organizational integration, turnover may fall disproportionately on employees with relatively lower human capital.

2.3. ONE M&A FITS ALL?

M&As are in fact an umbrella term used to define the merger of two organizations or the acquisition of one organization by another, but deals can be considerably heterogeneous (Bower, 2001; Chen, 2008; Graebner *et al.*, 2017; Larsson and Finkelstein, 1999; Napier, 1989). There are number of dimensions along which an M&A can be defined. For example, M&As are often distinguished by the technological, industry and product market similarities between target and acquirer. When there is a significant overlap in target and acquirer industry or product market, the deals are typically called related or horizontal M&As. When there is no overlap, M&As are referred to as unrelated or conglomerate M&As. Another dimension along which deals vary concerns the national origin of the target and acquirer: M&As can be either domestic (same country of origin) or cross-border (different country of origin). Deals can also differ for instance on how they are carried out: in particular, whether the acquirer takes on an equity stake in the target before assuming a controlling participation.

As different types of M&As vary in motive, antecedents, processes and outcomes, there are a number of reasons to expect that their effect on employee turnover may differ. First, the majority of M&As require some level of integration of the target into the acquired, but the degree of integration fluctuates across M&A types. The rationale of an organization to engage in M&As determines the type of transaction it pursues, which in turn will determine the degree of post-M&A integration required to create value (Bauer *et al.*, 2014; Chatterjee *et al.*, 1992; Napier, 1989). In related M&As, for example, targets are more likely to become fully integrated into the acquirer, as these deals are often motivated by potential operational synergies (Chatterjee *et al.*, 1992). Zollo and Singh (2004), in fact, argue that the benefits of related acquisitions are only expected to materialize in cases of extensive operational integration. The greater the potential for synergy realization, the greater the level of post-M&A integration expected (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004). A high degree of integration leads to extensive resource redeployment and high resource redundancy (Larsson and Finkelstein, 1999), thus leading to organizational restructuring, labour rationalization and potential layoffs (Chatterjee, 1992; Christensen *et al.*, 2011; O'Shaughnessy and Flanagan, 1998). Unrelated M&As, on the other hand, are

typically associated with diversification, technology acquisition or vertical integration of the value chain, with more limited overlap in skills, knowledge and capabilities between target and acquirer. The potential for operational synergies in that case is more limited, and thus is likely to involve limited post-M&A integration. Thus, it is reasonable to expect that related M&As will have a stronger effect on employee turnover than unrelated M&As.

Second, the rationale behind cross-border M&As typically differs from domestic acquisitions. Cross-border M&As are mostly motivated by geographical expansion into new markets, which on the one hand adds a supplementary level of acculturation, and on the other presents minimal overlap of activities between target and acquirer, which translates into limited sociocultural integration of the target (Stahl and Voigt, 2008). Differences in national culture can provide unique complementarities in M&As (Morosini *et al.*, 1998), as well as challenges. For example, Barkema *et al.* (1996) argue that cross-border M&As are characterized by an additional layer of acculturation, which represents a substantial barrier to the post-merger integrations process. Reus *et al.* (2016) highlight how cross-border M&As have the potential to increase conflict and power struggles. Krug and Hegarty (1997) also show an increase in employee turnover among top managers for targets that are acquired by foreign organizations vis-à-vis domestic organizations. Weber *et al.* (1996), however, found the effect to be the opposite: while organizational culture differences in domestic M&A had a negative impact on integration and cooperation, national culture differences in cross-border M&As had the opposite effect. In the same vein, Stahl and Voigt (2008) argue that increased attention to cultural difference between target and acquirer leads to less negative integration outcomes than less attention to organizational culture differences.

All in all, the findings on the effect of acquirer foreignness on sociocultural integration provide an unclear prediction a priori of how domestic and cross-border M&As differ in terms of employee turnover. This has led Björkman *et al.* (2007) to conclude that "the 'cultural distance' hypothesis either does not apply to acquisitions or is too simplistic to explain the effects of cultural differences on post-acquisition integration outcomes" (p. 660). Another aspect of post-M&A integration is the process of operational or structural integration (Graebner *et al.*, 2017; Larsson and Finkelstein, 1999). Cross-border M&As are relatively less likely to structurally integrate targets than domestic M&As because of the more limited operational synergies for geographically distant organizations. Consequently, I expect that involuntary turnover linked to operational synergies and cost reduction will be less prominent in cross-border M&As than in domestic M&As.

Lastly, the impact of M&As on employee turnover may also depend on how the M&A process is carried out –the M&A mode. For example, a gradual M&A mode is characterized by an equity alliance to increase the involvement in the target prior to a potential full-scale M&A. This two/multiple-stage M&A mode reduces

information asymmetries between the management of acquirer and target and avoids adverse partner selection (Reuer and Ragozzino, 2008). Such information asymmetries are particularly relevant when the targets are private (Capron and Shen, 2007) and in knowledge-intensive industries (Ranft and Lord, 2002). In this M&A mode, the acquirer first buys a minority stake or forms a joint venture with the target, gaining time and critical information about the target, enabling a better assessment of the target, potential fit and required post-M&A changes. Organizations do not always pursue a gradual acquisition, however. Most often, acquiring organizations buy outright a controlling share of the target with no prior equity involvement –an outright M&A. If M&As represent shocking events for employees, outright M&A modes probably have a stronger effect, leading to a more negative cognitive appraisal of the M&A and higher employee turnover. Gradual M&A modes provide a less sudden event and give employees more time to assimilate and cope with the new organizational reality.

All in all, we can expect different M&As to have a heterogeneous effect on employee turnover. In general, the literature suggests that domestic, related and outright M&As will have the largest effect on turnover, vis-à-vis cross-border, unrelated and gradual M&As.

2.4. EMPIRICAL STRATEGY AND DATA

Studies on the effect that M&As have on employee turnover have been limited by the availability of comprehensive quantitative data linking M&A deals and employees mobility patterns. Empirical research has thus focused on employees for whom data is publicly accessible, such as the top management of organizations listed in stock markets (Cannella and Hambrick, 1993; Fried *et al.*, 1996; Krug and Hegarty, 1997; Walsh, 1988; Walsh and Ellwood, 1991), or the management of a single organization (Iverson and Pullman, 2000) with research designs that do not include control groups.

To overcome these limitations, I use a unique matched dataset product of the merger between Integrated Database for Labor Market Research (also known as IDA, its acronym in Danish) and the Bureau van Dijk's Zephyr M&As database. IDA is a large panel database that contains information on virtually all individuals in the Danish labour market and all employers registered in Denmark since 1980. The data are collected on a yearly basis by Statistics Denmark from state agencies primarily for research purposes, and it is structured in several datasets at the organization- and employee-level. Some of the most prominent articles that have utilized this register database include Dahl (2011), Nanda and Sørensen (2010), and Sørensen and Sorenson (2007). Timmermans (2010) provides a comprehensive description of IDA. Zephyr is a global M&A database that has previously been used, for example in Arora and Nandkumar (2011) and Useche (2014). This database contains data on the majority of M&A deals in Denmark, including the industry and origin of

acquiring and target organizations. Although both databases are well-established, this paper is the first to make use of their combination.

M&A deals, organizations and individuals are linked through unique corporate registration IDs. The linkage between the IDA and the extract from the Zephyr database is performed by Statistics Denmark to preserve the anonymity of organizations and individuals. This also means that the final number of available variables is limited by data protection requirements set to avoid perfect identification of anonymized individuals and organizations in the database. For example, while the final sample contains a dummy variable for foreign/domestic acquirers, the precise country of origin of the acquirer is not available.

Table I: Descriptive Statistics - Organizations

	All		Treated		Control	
	Mean	SD	Mean	SD	Mean	SD
Profits (net, DKK million)	13,865	[213.928]	13,332	[149.380]	14,107	[237.496]
Size (FTE)	75,083	[196.694]	83,753	[182.470]	71,156	[202.730]
Sales (DKK million)	169,153	[659.730]	183,606	[544.685]	162,605	[705.727]
Size (t_{-1}, FTE)	76,293	[199.582]	86,594	[181.586]	71,597	[207.143]
Size (t_{-2}, FTE)	74,768	[195.226]	85,679	[187.053]	69,621	[198.807]
Sales (t_{-1}, DKK million)	162,652	[622.167]	176,477	[495.186]	156,371	[671.998]
Sales (t_{-2}, DKK million)	162,556	[712.608]	195,633	[891.821]	147,05	[610.427]
Profits (t_{-1}, net, DKK million)	12,495	[223.426]	11,326	[117.880]	13,026	[257.513]
Profits (t_{-2}, net, DKK million)	5,404	[69.971]	3,819	[64.062]	6,148	[72.584]
High knowledge intensive	0,277	[0.448]	0,267	[0.442]	0,282	[0.450]
Low knowledge intensive	0,377	[0.485]	0,373	[0.484]	0,379	[0.485]
High Tech Manufacturing	0,025	[0.156]	0,023	[0.149]	0,026	[0.159]
Mid-high Tech Manufacturing	0,114	[0.318]	0,124	[0.329]	0,110	[0.313]
Mid-low Tech Manufacturing	0,071	[0.258]	0,073	[0.260]	0,071	[0.256]
Low Tech Manufacturing	0,079	[0.269]	0,085	[0.279]	0,076	[0.265]
Region	5,664	[3.594]	5,604	[3.552]	5,691	[3.691]
Primary Industry	4,204	[2.028]	4,180	[2.064]	4,215	[2.012]
Number of organizations	2,983		930		2,053	

The data covers the period 2001-2010, since data on M&As before that period are limited. From a large pool of untreated organizations, I found appropriate matches for 930 M&A targets. The final sample, following the matching described in this section, includes 2,983 organizations and 1,583,240 individual-year observations. The treated and control groups are generally comparable, with treated organizations being slightly larger (sales and FTEs) and treated organizations being slightly more profitable. Treated organizations have, on average, 83.8 FTEs, sales of 186.6 million Danish Kroner, and net profits of 13.3 million Danish Kroner. Control organizations have, on average, 71.1 FTEs, sales of 162.6 million Danish Kroner and net profits of 14.1 million Danish Kroner. Of the treated organizations, 26.7% are knowledge-

intensive service organizations and 37.3% are non-knowledge-intensive service organizations; in the control group, the figures are 28.2% and 37.9%, respectively. High-tech manufacturing represents only 2.3% and 2.6% of treated and control organizations, respectively, while low-tech manufacturing organizations compose 8.5% and 7.6% of treated and control organizations, respectively.

Likewise, the treated and control groups of employees are largely comparable (Table II). The average employee in the treated group is 39.1 years old, earns 310.2K Danish Kroner yearly, has worked in the organization for 4.3 years, in 30.6% of cases is female, and has a mean of 0.343 small children. The average employee in the control group is 38.7 years old, earns 302.2K Danish Kroner, has worked 4.6 years in the organization, in 32.8% of cases is female, and has a mean of 0.343 small children. Control employees have a 3.24-month longer tenure than treated employees and earn approximate 8000 Danish Kroner (approx. 1250USD) less. The control group has a slightly higher composition of managers, professionals and service and sales employees, while the treated group has a slightly higher composition of technicians and blue-collar employees.

Table II: Descriptive Statistics - Employees

	All		Treated		Control	
	Mean	SD	Mean	SD	Mean	SD
Turnover	0.182	[0.385]	0.185	[0.388]	0.180	[0.384]
Wage (DKK; 0,000)	30.491	[19.697]	31.021	[20.496]	30.221	[19.273]
Job Tenure (years)	4.484	[5.661]	4.305	[5.512]	4.575	[5.733]
Age (years)	38.863	[9.969]	39.131	[9.770]	38.727	[10.066]
Education	1.760	[1.228]	1.759	[1.217]	1.761	[1.233]
Marital Status	0.705	[0.632]	0.714	[0.631]	0.700	[0.632]
Sex	0.321	[0.467]	0.306	[0.461]	0.328	[0.470]
Number of kids age 0-6	0.343	[0.657]	0.343	[0.656]	0.343	[0.658]
Number of kids age 7-12	0.290	[0.591]	0.292	[0.592]	0.288	[0.590]
Number of kids age 13-18	0.210	[0.500]	0.212	[0.501]	0.209	[0.499]
Unknown Rank	0.120	[0.325]	0.117	[0.322]	0.122	[0.327]
Top Management Team	0.000	[0.013]	0.000	[0.013]	0.000	[0.013]
Manager	0.045	[0.208]	0.043	[0.204]	0.046	[0.209]
Professional	0.109	[0.311]	0.098	[0.297]	0.114	[0.318]
Technician	0.189	[0.392]	0.202	[0.401]	0.183	[0.386]
Clerk	0.098	[0.297]	0.098	[0.298]	0.098	[0.297]
Service and Sales	0.063	[0.243]	0.055	[0.228]	0.067	[0.251]
Blue Collar	0.300	[0.458]	0.316	[0.465]	0.291	[0.454]
Employee-year observations	1,583,240		534,168		1,049,072	

2.4.1. VARIABLES

Dependent variable

Employee Turnover: The dependent variable is a binary variable (*Turnover*) that takes the value 1 at time t_0 when an employee changes employer from t_0 to t_1. The dependent variable is defined at the level of the individual employee.

Treatments

M&A: The main treatment in this article is defined as "working for an M&A target organization". Employees are considered "treated" if they work in a merged/acquired organization *when the M&A deal is announced*. This variable is defined at the level of the organization, so that all individuals who are employed by an M&A target the year the deal is announced are considered treated. All those working for control organizations (which are not a target of an M&A) are part of the control group.

In the additional analysis, I split the treatment according to the type of M&A. The main types considered in this paper are domestic vs. cross-border M&A, Related vs. Unrelated M&A, and Outright vs. Gradual M&A modes. These treatments are all binary, taking either the value one or zero. The precise nationality of the acquiring organization, the full list of industries in which organizations operate, and the detailed equity participation were ultimately restricted by Statistics Denmark in the matching process to prevent the perfect identification of organizations.

Domestic M&As and cross-border M&As: domestic M&As are those where both the M&A targets and the acquiring organizations are based in Denmark. Cross-border M&A refer to deals where the acquiring organization is not based in Denmark. The precise nationality of the acquiring organizations was restricted by Statistics Denmark in the matching process with the M&A dataset to prevent the perfect identification of organizations.

Related, closely related, broadly related and unrelated M&As: relatedness refers to degree of overlap in the industry of the acquiring and target organizations. In this study, I define a spectrum of relatedness based on 4-digit NACE codes for the primary and secondary industries of the target and acquiring organizations. *Related M&As* are defined as deals where the 4-digit NACE code of the primary industry of the target overlaps with the any of the industries of the acquiring organization. *Closely related M&As* are defined as deals where the primary industry of target and acquiring organizations overlap. *Broadly related M&As* are defined as deals where a secondary industry of the target overlaps with a secondary industry of the acquirer at 2-digit NACE codes. *Unrelated M&As* are those where there is no overlap.

Outright M&As and gradual M&As: *outright M&As* refers to the acquisition of a majority stake (>50%) of the target organization with no previous equity ownership

by the acquiring organization. *Gradual M&As* refer to deals in which the acquirer had a form of equity participation before acquiring a majority stake. This dichotomy is based on a more detailed equity participation variable from the Bureau van Dijk M&A dataset.

Independent variables

At the organizational level, to disentangle the specific effect of M&As on employee turnover, I control for a set of organizational variables that could arguably influence this effect. First, since individual mobility patterns can be conditioned by location, I include a categorical variable to control for the 23 different labour-market regions in Denmark. Second, mobility also varies substantially across different industries and sectors. I thus include both a 10-item categorical variable to capture industry-specific factors. Alternatively, I also included a 27-item industry variable for robustness, without significantly altering the results. Additionally, all models include 6 sector dummies according to the knowledge intensiveness (services) and technological level (manufacturing) of the industry based on the Eurostat High-tech aggregation by NACE Rev.2. Third, I include two organizational performance variables: Profits (net, DKK, million) and sales (DKK, million) in the previous 2 years. Lastly, I control for organizational size (FTEs), and organizations below 3 FTE are pruned.

At the individual level, I include a number of demographic and job-related variables. All models include a dummy for sex (1 if female, 0 if male), three variables for the number of children in different age ranges (0-6, 7-12, 13-18), marital status (not married, married, divorced, widow); age (years), an education categorical variable (Primary School, High School, Vocational Training, College, University). Job-related variables include nominal annual income (Danish Kroner, ten thousand), job tenure (years in the organization), seven dummy variables for the employee's rank in the organization (Top-Management-Team, Managers, Professionals, Technicians, Clerks, Service and Sales, and Blue-collar Employees) based on the ISCO-08 classification from the International Labour Organization.

Employee characteristics and human capital

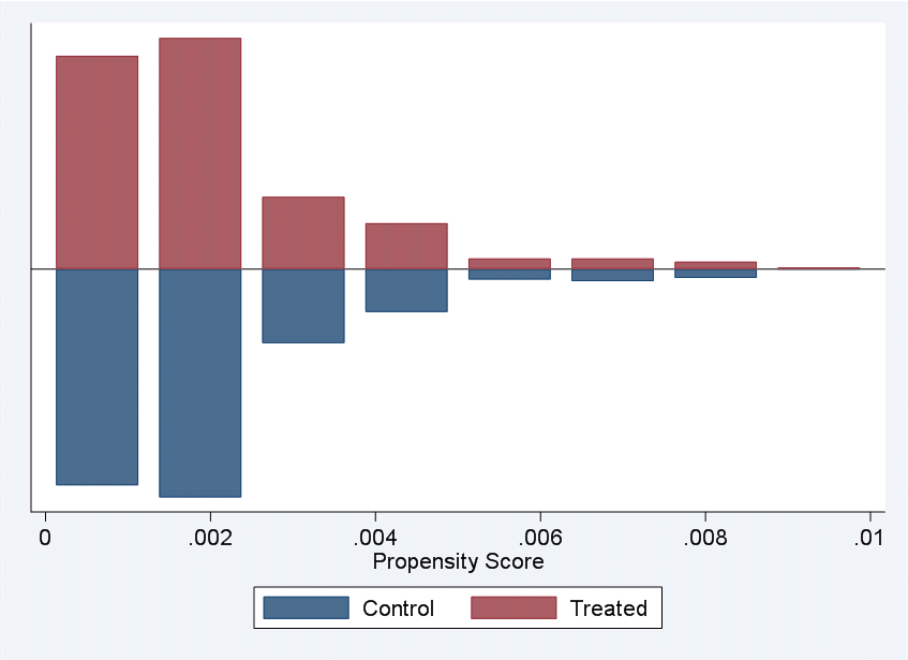
Arguably, the best single measure of individual human capital as established in the human capital literature is income (Nyberg *et al.*, 2014). On average, employees with higher human capital receive higher wages than their peers in similar positions, and therefore income is often used as a proxy for an individual's human capital (Nyberg *et al.*, 2014). There is no single perfect measure of individual human capital, however, so I opt to present an analysis along several dimensions: organizational rank, wage, educational level, job tenure and age. For wage and job tenure, I construct an industry-wide variable splitting the distribution into quintiles, with the lowest quintile representing the bottom 20% of the distribution and the highest quintile representing the top 20%. Employee age is split into 4 categories:

18-30, 31-40, 40-50 and higher than 50 years of age. Organizational rank and educational level are defined above.

2.4.2. EMPIRICAL STRATEGY

In the ideal experiment, I would randomly assign employees to organizations which then become M&A targets. Such research design is clearly not feasible. Not all organizations have the same probability of becoming M&A targets either, so the treatment assignment is certainly not random. Therefore, we must rely on other alternative research designs that will allow for reliable inference. I make use of three strategies for identification of effects. First, I use propensity score matching to pseudo-randomize the treatment based on observable organization characteristics: size, sales, profits, industry and location. The region of common support for treated and untreated organizations in this case is approximately between 0 and .01. I then sort by propensity score and match the treated to the closest untreated organization. The propensity scores of the final sample are shown in Figure 1. This selection strategy enables the construction of treated and control groups with a similar probability of being treated, essentially pseudo-randomizing the treatment based on observables (assuming conditional ignorability). Second, I use a difference-in-differences design, where changes over time are compared to the control (untreated) group of organizations and employees that have not experienced M&As. Lastly, I estimate the within-group effects in linear probability models with organization fixed effects, in effect controlling for unobservable differences between organizations. A conditional organization fixed effects logistic regression model is not feasible in Stata software due to numerical overload problems (see Dahl and Pierce, 2018), and I therefore use linear probability models here. These strategies account at least partly for the omitted variable bias, by including industry, location, year and organization fixed effects.

Figure 1: Propensity Scores After Matching

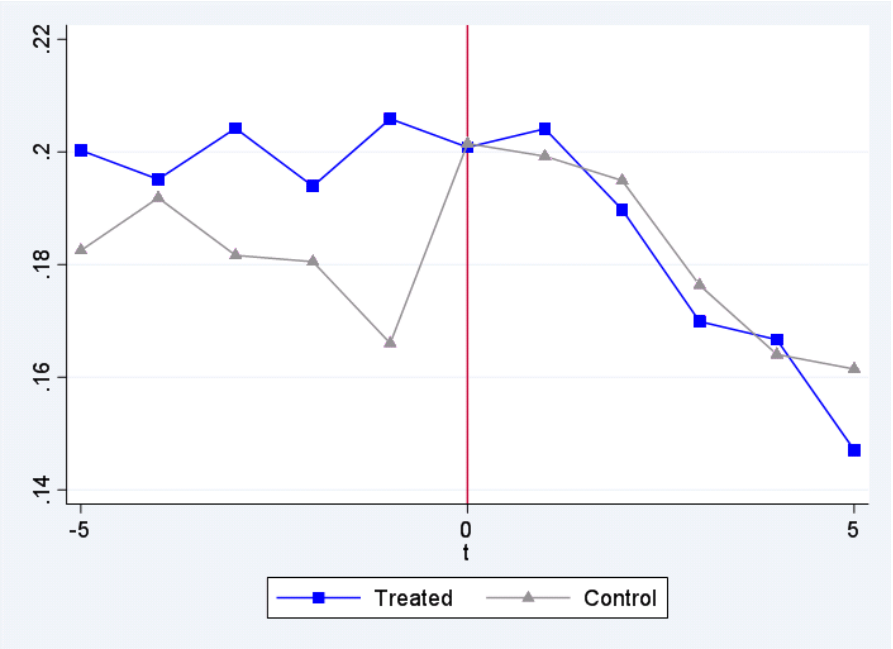


Area of common support in propensity score distributions of treated and control organizations. The plot shows the propensity scores (x-axis) against relative frequency (y-axis) for each group.

It is reasonable to assume that the departure of several employees of an organization might be correlated, and therefore I cluster standard errors at the level of the organization to correct for this intra-group correlation. Angrist and Pischke (2008) suggest that at least 42 clusters are required for reliable inference. The number of clusters is reported for each model, and in all cases meets this criterion.

Figure 2 displays the evolution of turnover means for treated and control groups for each year from t_{-5} (i.e., 5 years before the event) to t_{+5} (i.e., 5 years after the event). The mean turnover of employees in the treated group is 18.5%, while the turnover of control employees is 18.0%. Treated and control groups follow similar parallel trends until t_{-2}. In t_{-1}, however, there is a divergence in trajectories, with the delta in mean turnover treated and control groups more than doubling. The M&A event unfolds between t_{-1} and t0, so this suggests that turnover might be happening before the deal is announced. Here, it is important to notice that the outcome variable *Turnover* takes the value 1 at t_{-1} when the employee changes organizations between t_{-1} and t_0. At t0 the means are almost exactly at the same level and continue on a very similar trend thereon. Although this analysis is a simple means-comparison, it signals that there is something occurring with employee turnover around the time of an M&A.

Figure 2: Turnover Rates



2.5. RESULTS

2.5.1. MAIN ANALYSIS

Table III shows the results of the logit model and the difference-in-differences logit model. Column (1) shows the correlation between M&As and turnover, including the full set of individual, organization performance, industry, sector, year and location variables. For conciseness, all tables display the summary results, but full regression tables are available on request for all models. The correlation between M&As and turnover is indeed positive, indicating that employees working in treated organizations are associated with a higher probability of turnover.

Table III: Employee Turnover, Logit models

	(1)	(2)
M&A	0.397**	
	[0.060]	
M&A, all years		0.187**
		[0.040]
M&A x Post t_0		-0.187**
		[0.046]

Demographic variables	Yes	Yes
Rank	Yes	Yes
Organizational Performance	Yes	Yes
Year fixed effects	Yes	Yes
Sector fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Location fixed effects	Yes	Yes
Pseudo R^2	0.06	0.06
Log-likelihood	-569,017	-569,455
Number of organizations	41,905	41,905
Observations	1,316,551	1,316,551

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

In Column (2) we move into the difference-in-differences analysis, where the variable of interest is *M&A x Post*, the interaction between the treatment (M&A, all years) and the Post treatment period. In Column (2), the post period is set to start at t_0, which is the period when the M&A is reported to have already occurred. The results reveal that treated employees have in general a larger probability of turnover than the control group, but that this probability decreases in the post period. In other words, treated employees have higher turnover than the control group but only before the M&A event.

Table IV: Employee Turnover -Organization Fixed Effects Models, Linear Probability

	(1)	(2)
M&A	0.097**	
	[0.010]	
M&A, all years		-0.025**
		[0.006]
M&A x Post t_0		0.023**
		[0.007]
Organization fixed effects	Yes	Yes
Demographic variables	Yes	Yes
Rank	Yes	Yes
Organizational Performance	Yes	Yes
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
R^2	0.02	0.02
Log-likelihood	-434,103	-436,040
Number of organizations	41,907	41,907
Observations	1,316,599	1,316,599

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

Table IV displays the linear probability models and introduces organization fixed effects to capture unobserved organizational heterogeneity. In this instance, the results reveal a notably different picture. Whereas the positive correlation between M&As and employee turnover shows robustness in Column (1), the model in Column (2) now stands in stark contrast. When we introduce organization fixed effects, the treatment shows a negative correlation with turnover, and the difference-in-differences estimator shows a positive effect of M&A on turnover. In other words, the negative effect that we saw in Column (2) of Table III was largely based on differences between organizations, and when controlling for organizational heterogeneity, the effect of M&A on employee turnover is clearly positive.

To test the robustness of these results, I additionally run a set of models right- and left-censoring the samples around M&As (results available on request). Changes to the treatment window have no effect on the direction or significance of the result. The magnitude of the effect is highest when considering the period between t_{-2} and t_2.

2.5.2. THE WHO

Next, to analyse which groups of employees are most affected by M&As, I split the results according to a number of employee characteristics: organizational rank (Table V), wage quintile (Table VI), job tenure quintile (Table VII), educational level (Table VIII) and age (Table IX). All models are linear probability models with organization fixed effects, and include the full set of control variables and fixed effects.

In Table V, the first thing we can see is that technicians are the only group that is significantly affected. This means that the effect of M&As on turnover is widely distributed and that categorizing employees by rank is not completely informative. Other constructions are necessary to understand the distribution of M&As effect on turnover.

Table V: Employee Turnover by Rank, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
M&A, all years	0.060	-0.007	-0.019	-0.032**	-0.029*	0.015	-0.024*
	[0.471]	[0.013]	[0.011]	[0.008]	[0.011]	[0.017]	[0.010]
M&A x Post t_0	0.178	0.011	0.024	0.016*	0.003	-0.002	0.016
	[0.205]	[0.010]	[0.014]	[0.008]	[0.010]	[0.023]	[0.011]
Demographic variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.40	0.02	0.02	0.02	0.02	0.05	0.02
Log-likelihood	25	-12,087	-33,433	-63,081	-32,042	-34,448	-122,363
Number of organizations	81	5,289	6,561	11,914	11,249	7,473	17,405
Observations	196	60,537	144,952	251,770	125,333	80,199	400,806

(1) TMT (2) Managers (3) Professionals (4) Technicians (5) Clerks (6) Service/Sales (7) Blue-Collar.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

Table VI: Employee Turnover by Wage Quintile, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)
M&A, all years	-0.052**	-0.025**	-0.021*	-0.020*	-0.002
	[0.007]	[0.008]	[0.008]	[0.009]	[0.009]
M&A x Post t_0	0.079**	0.024**	0.001	-0.009	-0.010
	[0.008]	[0.009]	[0.009]	[0.009]	[0.008]
Demographic variables	Yes	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.03	0.02	0.02	0.02	0.02
Log-likelihood	-111,743	-85,047	-68,810	-53,805	-44,089
Number of organizations	21,606	17,108	15,294	14,652	13,271
Observations	219,416	253,732	272,788	284,645	286,018

(1) Lowest quintile - (5) Highest quintile.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

In Table VI, I split the regression according to the wage quintile of the employee within the industry. Column (1) corresponds to the lowest wage quintile, and Column (5) represents the highest quintile. This categorization paints a very clear picture: the effect of M&As on employee turnover is only significant for those in the lower quintiles of the wage distribution, as the difference-in-differences estimator is only significant in the models in Column (1) and (2).

In Table VII, regressions are split according to the job tenure quintiles, with column (1) representing the lowest quintile, and column (5) representing the highest quintile in the distribution. The model in column (1) shows a positive effect of M&As the lowest job-tenure quintile, whereas column (4) and (5) show that these groups of employees are actually less likely to move following M&As than before.

Table VII: Employee Turnover by Tenure Quintile, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)
M&A, all years	-0.053**	-0.023**	-0.004	-0.015	0.007
	[0.007]	[0.009]	[0.010]	[0.010]	[0.012]
M&A x Post t_0	0.084**	0.012	-0.014	-0.030**	-0.045**
	[0.009]	[0.009]	[0.010]	[0.008]	[0.008]
Organization fixed effects	Yes	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.02	0.01	0.02	0.02	0.03
Log-likelihood	-192,235	-78,225	-55,408	-16,054	34,068
Number of organizations	29,167	15,433	13,726	10,450	6,898
Observations	369,274	209,135	232,042	256,225	249,923

(1) Lowest quintile- (5) Highest quintile.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

Next, I split the regressions according to 5 educational levels: (1) Primary School, (2) High School, (3) Vocational Training, (4) College, and (5) University. It is notable here that employees who have completed formal education up to primary school or high school are not impacted by M&As, but rather those who have completed at least vocational training.

Table VIII: Employee Turnover by Educational Level, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)
M&A, all years	-0.018*	-0.021	-0.022**	-0.027**	-0.036**
	[0.009]	[0.012]	[0.007]	[0.008]	[0.011]
M&A x Post t_0	0.011	0.014	0.021**	0.015	0.028*
	[0.011]	[0.014]	[0.007]	[0.008]	[0.013]
Organization fixed effects	Yes	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.03	0.04	0.02	0.02	0.02
Log-likelihood	-107,007	-45,487	-156,249	-57,006	-33,025
Number of organizations	19,255	11,454	25,464	11,524	6,776
Observations	316,887	113,713	554,996	219,259	111,744

(1) Primary School (2) Highschool (3) Vocational Training (4) College (5) University.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

Table IX: Employee Turnover by Age Group, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)
M&A, all years	-0.026**	-0.023**	-0.020**	-0.015
	[0.008]	[0.007]	[0.007]	[0.009]
M&A x Post t_0	0.032**	0.020**	0.014	-0.012
	[0.012]	[0.008]	[0.008]	[0.009]
Organization fixed effects	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes
R^2	0.03	0.02	0.01	0.02
Log-likelihood	-130,107	-138,043	-82,164	-33,486
Number of organization	25,060	22,272	17,307	9,780
Observations	274,459	441,909	388,127	212,104

(1) Age <30 (2) Age 31-40 (3) Age 41-50 (4) Age >50.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

Table IX displays the results according to age groups. In this instance, once again, the tendency is clear: the effect of M&As on employee turnover is highly significant for those in the younger age groups (i.e., 40 years old or less). It is only marginally significant for those between 41 and 50 years old, and it is not significant for those over 50 years of age.

All in all, what the results reveal is that the most affected groups of employees are relatively young, have joined the organization relatively recently, have completed at least vocational training and have relatively low wages. The distribution of effects according to organizational rank is less clear, with technicians being the only group for which M&As show a particularly significant effect overall.

2.5.3. FOLLOW-ON ANALYSIS

To deepen the analysis of the effect of M&As on employee turnover, I next study the heterogeneous effect of different types of M&As. Table X displays the results for domestic vs. cross-border M&As, and outright vs. gradual M&As. The first thing we notice is that the acquirer's country of origin does not have a differential impact overall: the effect of both domestic and cross-border M&As on employee turnover is positive and significant.

Table X: Employee Turnover, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)
Domestic M&A X Post t_0	0.027**			
	[0.010]			
Cross Border M&A X Post t_0		0.029**		
		[0.010]		
Outright M&A X Post t_0			0.028**	
			[0.007]	
Gradual M&A X Post t_0				0.008
				[0.027]
Organization fixed effects	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes
R^2	0.02	0.02	0.02	0.02
Log-likelihood	-435,580	-435,562	-435,760	-435,277
Number of organizations	41,907	41,907	41,907	41,907
Observations	1,316,354	1,316,394	1,316,507	1,316,238

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

The next thing we notice on Table X is that outright M&As, where the acquirer does not have an equity stake in target before the majority acquisition, have again a positive and significant effect on employee turnover. M&As that follow a gradual acquisition strategy, on the other hand, show no significant effect at all on employee turnover.

Next, we turn to the analysis of industry relatedness. M&A deals are classified here in terms of NACE Rev.2 industry codes. Related M&As are those where the primary industry of the target overlaps with any of the industries on the acquirer. Closely related M&As are those where the primary industry of the target is the same as the primary industry of the acquirer. Broadly related M&As are those where only a secondary industry of the acquirer matches the primary industry of the target (2-digit NACE codes). Unrelated M&As are those where there is no overlap between acquirer's and target's industry.

Table XI: Employee Turnover, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)
Related M&A x Post t_0	0.035**			
	[0.010]			
Closely-related M&A x Post t_0		0.039**		
		[0.012]		
Broadly-related M&A x Post t_0			0.022	
			[0.015]	
Unrelated M&A x Post t_0				0.014
				[0.011]
Organization fixed effects	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes
R^2	0.02	0.02	0.02	0.02
Log-likelihood	-435,372	-435,166	-435,393	-435,573
Number of organizations	41,907	41,907	41,907	41,907
Observations	1,316,332	1,316,278	1,316,201	1,316,279

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

The results in Table XI show that industry relatedness matters greatly for employee turnover. Related and particularly closely related M&As have a positive and significant effect on employee turnover. Broadly related and unrelated M&As, on

the other hand, have no significant effect on employee turnover. In a spectrum from full industry overlap to no industry overlap between target and acquirer, the impact of M&As on turnover increases with overlap.

In the next step, I split the regression according to organizational rank (Table XII), wage quintile (Table XIII), educational level (Table XIV), and age (Table XV). All models are linear probability models with organization fixed effects and include the full set of control variables and fixed effects, with standard errors clustered at the level of the organization.

Table XII: Estimated Probability of turnover by Rank, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cross Border M&A X Post t_0	-0.564	0.018	0.016	0.025	0.012	-0.005	0.030**
Domestic M&A X Post t_0	0.326*	0.020	0.052**	0.027*	0.011	0.065	0.007
Outright M&A X Post t_0	0.174	0.013	0.022	0.021**	0.011	0.006	0.026**
Gradual M&A X Post t_0	-	0.024	0.069	0.044	-0.016	-0.064	-0.014
Related M&A x Post t_0	0.197	0.030	0.037	0.040*	0.013	0.047	0.031**
Closely-related M&A x Post t_0	0.167	0.031	0.045	0.051*	0.017	0.061	0.036**
Broadly-related M&A x Post t_0	-	0.024	-0.008	0.001	0.023	0.004	0.002
Unrelated M&A x Post t_0	0.115	0.000	0.012	0.007	-0.001	-0.000	0.005
Organization fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.40	0.02	0.02	0.02	0.02	0.05	0.02
Log-likelihood	25	-12,084	-33,423	-62,979	-32,024	-34,438	-122,187
Number of organizations	81	5,289	6,561	11,914	11,248	7,473	17,405
Observations	196	60,535	144,944	251,753	125,319	80,186	400,749

(1) TMT (2) Managers (3) Professionals (4) Technicians (5) Clerks (6) Service/Sales (7) Blue-Collar.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

The results in Table XII show that only domestic M&As have a significant effect on top management team (TMT) members turnover. Inference on this particular relationship is complicated by the limited number of organizations for which TMT membership was identified in the sample. Additionally, the condition of externality of an M&A event does not necessarily hold for top managers, since these employees quite possibly actively affect the likelihood of M&As happening in the first place. The model in column (2) shows no particularly significant effect of any type of M&A on the rest of management, while column (3) shows a positive and significant effect of domestic M&A on professionals. Technical employees and blue-collar employees are the collective most affected by M&As in general as we saw in the previous section. Turnover of technical workers is increased by domestic, outright, related and closely related M&As. Turnover of blue-collar employees is affected by cross-border, outright, related, and closely related M&As.

Table XIII: Employee Turnover by Wage Quintile, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)
Cross Border M&A X Post t_0	0.081**	0.038**	0.010	0.005	-0.004
Domestic M&A X Post t_0	0.080**	0.025*	0.009	-0.001	0.004
Outright M&A X Post t_0	0.086**	0.028**	0.010	-0.001	-0.005
Gradual M&A X Post t_0	0.059*	0.023	-0.012	-0.013	-0.012
Related M&A x Post t_0	0.087**	0.034**	0.016	0.009	0.011
Closely-related M&A x Post t_0	0.083**	0.039**	0.020	0.013	0.017
Broadly-related M&A x Post t_0	0.076**	0.008	0.018	0.007	0.002
Unrelated M&A x Post t_0	0.076**	0.022	-0.007	-0.016	-0.017
Organization fixed effects	Yes	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.03	0.02	0.02	0.02	0.02
Log-likelihood	-111,743	-85,047	-68,810	-53,805	-44,089
Number of organizations	21,606	17,108	15,294	14,652	13,271
Observations	219,416	253,732	272,788	284,645	286,018

(1) Lowest quintile - (5) Highest quintile.
Standard errors are clustered at the level of the organizations and reported in brackets.
Significance levels: *($p<0.05$), **($p<0.01$).

In Table XIII, we can see that the all types of M&A have a significant effect only on those employees in two lowest quintile of the income distribution in their industry. We can see this effect even for gradual M&As ($p<0.05$), for which we saw no overall impact on turnover. The trend is remarkably robust across all types of M&As, with no particular effect on the three highest quintiles of the income distribution.

Table XIV shows the results for the M&A types by educational level. In this instance, we note that gradual, broadly related and unrelated M&As do not have a significant effect on any particularly educational group. Cross-border M&As have a significant effect on employees who have completed up to primary school education and those who completed vocational training. Domestic M&As have an effect on those who have completed high school, college or university studies. Outright M&As have an effect on those with vocational training, college or university, whereas related M&As have a significant effect on all groups except university graduates (only at $p<0.10$). Closely related M&As have almost the same impact as related M&As, except for primary school graduates for which significance is only at the 5% level.

Table XIV: Employee Turnover by Educational Level, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)	(5)
Cross Border M&A X Post t_0	0.031**	0.018	0.029**	0.017	0.024
Domestic M&A X Post t_0	0.005	0.040**	0.019	0.028*	0.061**
Outright M&A X Post t_0	0.020*	0.020	0.026**	0.018*	0.032*
Gradual M&A X Post t_0	-0.016	-0.001	-0.002	0.033	0.062
Related M&A x Post t_0	0.025*	0.047**	0.030**	0.031*	0.047
Closely-related M&A x Post t_0	0.023	0.056**	0.034**	0.035*	0.060
Broadly-related M&A x Post t_0	0.030	0.033	0.025	0.003	0.016
Unrelated M&A x Post t_0	0.008	-0.004	0.015	0.004	0.017
Organization fixed effects	Yes	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.03	0.04	0.02	0.02	0.02
Log-likelihood	-107,007	-45,487	-156,249	-57,006	-33,025
Number of organizations	19,255	11,454	25,464	11,524	6,776
Observations	316,887	113,713	554,996	219,259	111,744

(1) Primary School (2) Highschool (3) Vocational Training (4) College (5) University.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *($p<0.05$), **($p<0.01$)**.

Table XV displays the results according to age group. In this table, there are two results to highlight: first, none of M&A types has a significant effect on those 50 years old or older. Second, neither gradual, broadly related nor unrelated M&As have a significant effect on any particular age group. The other types of M&As have a significant effect on both groups 40 years old or younger, with all but domestic M&As also having a positive effect on the 41-50 age group.

Table XV: Employee Turnover by Age Group, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)
Cross Border M&A X Post t_0	0.034*	0.028**	0.022*	0.004
Domestic M&A X Post t_0	0.045**	0.023*	0.017	-0.007
Outright M&A X Post t_0	0.040**	0.026**	0.019**	-0.005
Gradual M&A X Post t_0	-0.014	0.014	0.013	-0.008
Related M&A x Post t_0	0.049**	0.036**	0.027**	0.006
Closely-related M&A x Post t_0	0.051**	0.041**	0.030*	0.006
Broadly-related M&A x Post t_0	0.032	0.019	0.023	0.020
Unrelated M&A x Post t_0	0.029	0.008	0.004	-0.013
Organization fixed effects	Yes	Yes	Yes	Yes
Demographic variables	Yes	Yes	Yes	Yes
Rank	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes
R^2	0.03	0.02	0.01	0.02
Log-likelihood	-130,107	-138,043	-82,164	-33,486
Number of organizations	25,060	22,272	17,307	9,780
Observations	274,459	441,909	388,127	212,104

(1) Age <30 (2) Age 31-40 (3) Age 41-50 (4) Age >50.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.05), **(p<0.01).

In sum, in terms of country of origin of the acquirer, cross-border M&As increases turnover particularly for blue-collar workers, relatively young or middle-aged, with primary school or vocational studies, and in the lowest 40% of the income distribution. The profile of those affected by domestic M&As are 18-40 years old, technical workers of professional, with high school, college or university degrees, and in the lowest 40% of the income distribution in their industry.

In terms of acquisition mode, it is clear from the results that outright M&As have a much more significant effect on turnover than gradual M&As. Overall, gradual M&As are shown to only have a significant effect ($p<0.05$) on those in the lowest quintile of the income distribution. Outright M&As, on the other hand, have a significant effect on young and middle-aged technicians and blue-collar employees, with high-school, college or university studies, and in the lowest 40% of the income distribution.

The results for industry relatedness also reveal some marked tendencies. Overall, neither unrelated nor broadly related M&As have a significant effect on employee turnover. In fact, their impact on turnover is largely indistinguishable, and only

employees in the lowest quintile of the income distribution appear affected by these types of M&A. On the other end, related and closely related M&As have an effect on the turnover of employee similar groups: young or middle-aged technicians and blue-collar employees, with high school, vocational school or college studies, and in the lowest 40% of the income distribution in their respective industry.

2.6. DISCUSSION

Overall, the evidence presented in the article indicates that M&As indeed increase employee turnover. This is hardly surprising and in line with the previous studies, which have focused on top-management turnover following M&As (e.g. Cannella and Hambrick, 1993; Fried *et al.*, 1996; Krug and Hegarty, 1997; Walsh, 1988; Walsh and Ellwood, 1991). Since employee turnover has been shown to decrease organizational performance (Aime *et al.*, 2010; Hancock *et al.*, 2013; Hatch and Dyer, 2004; Heavey *et al.*, 2013; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Wezel *et al.*, 2006), this is a potential source of value destruction in M&A deals. However, there are a number of caveats. First, contrary to previous findings, this article shows that managers in particular are not actually more likely to depart following M&As than before, at least for this large set of matched organizations and employees. This suggests that previous findings may have been driven by lack of control groups, control for organizational heterogeneity, or may not be representative of a wider set of organizations. The only indication that top-management turnover increases found here is for domestic M&As, but inference on this point is limited by the small number of organizations with identified TMT members in the sample.

Second, while overall employee turnover increases following M&As, a more granular analysis shows that the effect is focused on employees who would not be typically considered high-human capital individuals: relatively young, with short job tenure and low income, albeit with relatively high educational level. The evidence indicates that we are in a "last-in-first-out" scenario, rather than one in which top employees are leaving in droves. Clearly, employee turnover in general incurs direct and indirect costs for the organization. However, the notion that top employees typically walk out the door *en masse* following M&A simply finds no support here. Consequently, one must question again to what degree accounts of human capital drain following M&As are representative of a wide set of organizations. The perception that top employees leave following M&As might be compounded by the fact that top-performing employees are relatively more visible in the labour market in general, and therefore highly mobile (Groysberg *et al.*, 2008). Nevertheless, I find that mobility of top-performing employees is not particularly increased by M&As. The findings also reinforce recent evidence that M&A deals can be put off by potential employee mobility (Younge *et al.*, 2014), as organizations consider human capital retention key to value creation in deals (Pablo, 1994). It also points towards employee turnover being largely involuntary, as organizations integrate

operationally in the quest for synergy realization, since those leaving have relatively low human capital.

Third, the effect of M&As varies greatly depending on the deal characteristics. The level of industry relatedness between target and acquirer in M&As is crucial for employee turnover. In general, the impact of deal on employee turnover increases with the level of industry relatedness; closely related and related M&As have the strongest effect on employee turnover, while broadly related and unrelated M&As had barely any significant effect on turnover. This reinforces the notion that related and unrelated deals are conceived for different reasons and have substantially different impacts on employees. This is in line with the explanation that the potential for operational synergies in related M&As are greater than in unrelated M&As, and thus a higher level of integration is required to achieve value in related M&As. (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004). It is also possible, however, that employees of related merging organizations anticipate the redundancy of their role in the new organization and search for alternative employers, leaving the target organization voluntarily.

Less difference can be attributed overall to the country of origin of the acquirer, as both cross-border and domestic M&As similarly increase employee turnover. The main difference between domestic and cross-border M&As resides in who is most affected, with domestic M&As having a stronger effect on technical workers and professionals and cross-border M&A having a stronger effect on blue-collar employees. The findings do not particularly shed light on a differential impact of organizational or national cultural differences (Stahl and Voigt, 2008; Weber *et al.*, 1996). They do indicate, however, that an outcome of cross-border deals can be substantial re-deployment of blue-collar jobs to other locations.

Lastly, this article also shows that following a gradual M&A approach is an effective way of avoiding employee turnover. Equity alliances that gradually increase the involvement of the acquirer in the M&A target in effect reduce the impact of M&As on employee turnover, possibly by reducing adverse partner selection (Reuer and Ragozzino, 2008) and providing enough time for employees to adapt their perception of fit with the new organizational image (Holtom *et al.*, 2005).

All in all, the evidence shows weak support for the notion that turnover of top employees is behind the failure of merging organizations to deliver on expected outcomes (e.g. Cartwright and Schoenberg, 2006; Napier, 1989; Schuler and Jackson, 2001). M&As increase employee turnover at the target organization, but not specifically of employees with high human capital. It is possible to see this as evidence that accounts of en masse turnover of top employees following M&As is the product of perception and selection bias, since these individuals are always relatively more mobile. However, one should also consider that, as this article looks into a large set of deals and organizations across a number of industries, it is

possible that many cases are not represented by the average treatment effects. Moreover, we should be cautious about extrapolating these results to other contexts. In this study, I cover a wide range of industries throughout the relatively small and wealthy Nordic country of Denmark, which has a flexible labour market and turnover rates comparable to those of the US. On the one hand, individuals in Denmark can carry their pension and holiday schemes from one employer to another, and non-compete clauses are typically not enforced. This means that top employees are at the very least not any more restricted in their movement than in other major developed economies. On the other hand, the small size of the labour market limits the number alternative potential employers in a given industry and in a given geographical area. This is partly offset by the high geographical mobility of individuals in Denmark, but nonetheless it is exacerbated by the fact that M&As reduce the number of employers in the industry. I believe that, all things considered, the findings would not be much different in the context of other developed economies, as long as the average effect across a wide set of industries is considered.

A limitation of this article is that, despite its richness, the data do not allow us to discern why employees leave following M&As. Here I have proposed a series of plausible explanations on how M&As affect employee turnover, but alternative mechanisms are still possible and cannot all be dismissed.

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Chapter 3. M&As and entrepreneurship

Abstract: *Mergers and acquisitions (M&As) can play a major role in the formation of new organizations because they represent a shock to the environment within which employees decide to start new ventures. By suddenly altering the opportunity structure of organizations, M&As change the relative attractiveness of entrepreneurship for individuals as a career choice. M&As' impact on the advancement opportunities for employees, thus, increases the relative value of entering into entrepreneurship. Moreover, different types of M&As have different impacts on entrepreneurial entry through their change in the target's opportunity structure. In this article, I use a unique panel dataset that combines data on entrepreneurs and M&As to explore such effects, and the results demonstrate that M&As are both significant and diverse catalysts of entrepreneurial entry.*

3.1. INTRODUCTION

Mergers and acquisitions (M&As) are often depicted in the popular press and economic disciplines as detrimental to competition. However, the literature on spinoff formation (intra-industry venture formation by individual employees) has suggested that M&As can instead be an important source of entrepreneurial entry in high-tech industries (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper and Thomson, 2010). Nevertheless, why would employees leave an incumbent organization to found their own ventures following M&As in particular? According to the dominant logic in the literature, the answer to this question can be found in the disagreements concerning the strategic direction of an organization such as the shut-down of R&D programs or the refusal to commercialize internally developed technologies and products (Garvin, 1983; Klepper and Thompson, 2010).

The issue with those studies is that they retrospectively account for a reduced sample of (successful, intra-industry) entries by top employees and engineers in high-tech manufacturing. While there are good reasons to pay special attention to a reduced number of ventures and industries, the transition from established organizations to entrepreneurship at some point during individual's professional careers is remarkably common (Sørensen and Sharkey, 2014). Research designs that sample on success stories do not tell us much about all those ventures that may have started and never reached stardom, leaving not much of a record. Narratives that

capture the popular imagination (think of Intel or AMD spinning out of Fairchild following strategic disagreements) fail to account for the fact that the vast majority of new ventures are founded by the employees of established incumbents (Burton *et al.,* 2002) and that a large share of individuals eventually experience periods of entrepreneurship (Sørensen and Sharkey, 2014). In short, most entrepreneurs actually come from established organizations, and entrepreneurship is a much broader phenomenon than high-tech startups.

Viewing entrepreneurship as a labor market status, I propose that changes to advancement opportunities as a result of M&As have a major role in the decision to enter entrepreneurship (Sørensen and Sharkey, 2014). The opportunity structure within an organization influences entrepreneurial entry by shaping individuals' opportunities to advance in established organizations (Sørensen and Sharkey, 2014). The better the opportunities for growth within an established organization, the lower the relative attractiveness of entrepreneurial entry will be. From this perspective, it is the relative absence of opportunities inside the organization that drives individuals to transition to entrepreneurship. M&As change the distribution of available advancement opportunities in the target organization, thus acting as an exogenous shock to the opportunity structure, changing the relative attractiveness of entrepreneurship as a career choice and acting as triggers to entrepreneurial entry (Krueger *et al.,* 2000). M&As often require a high degree of integration for the realization of synergies and increased efficiency (Christensen *et al.,* 2011; Larsson and Finkelstein, 1999). This translates into higher competition for upward mobility as the number of adjacent positions increases through integration and the relative proportion of higher positions subsequently reduces with the consolidation of management. Given individuals' fixed traits and tastes, when climbing the organizational ladder suddenly becomes more difficult and upward mobility is blocked, entrepreneurship may become the most attractive advancement opportunity (Sørensen and Sharkey, 2014).

An essential element missing from the current discussion is the understanding of who actually transitions to entrepreneurship following M&As. The overall evidence in the spinoff literature is again based on a sample of high-profile cases in high-tech manufacturing, which does not provide information about the overall transition among a wide range of employees and across multiple industries. Following Sørensen and Sharkey's (2014) sociological approach, I argue that employees with a) higher levels of organization-specific capabilities (as opposed to general capabilities valued by other organizations) and b) closest to the opportunity ceiling are more likely to transition to entrepreneurship as a reaction to shocks to the span of control (i.e., number of people competing for the same advancement opportunity). As such, this is the first article to explore who enters entrepreneurship as a result of M&As across multiple organizations and industries. To study this question, I combine the Danish panel database known as the Integrated Database for Labor Market Research (IDA) with the Zephyr M&A database from Bureau van Dijk. I

examine the effect of M&As on new venture formation by employees through difference-in-differences and fixed effects regressions on a sample that includes 69.671 unique individual-year observations and 15.597 organization-year observations from 2001 to 2010.

An important distinction in the M&A and intra-industry spinoff literature is among different types of M&As. In the spinoff literature (Garvin, 1983; Klepper, 2009; Klepper and Thompson, 2010), particular attention has been given to unrelated M&As (acquisition by nonindustry incumbents) and related M&As (acquisition by industry incumbents). The findings in this area are mixed, with related and unrelated M&As having different impacts across industries; however, no actual explanation is given for this "stylized fact". I propose that observed differences are based on the degree of integration inherent in different types of M&A, which determines the change to internal advancement opportunities and consequently the employees' propensity to move into entrepreneurship. This article extends these previous findings in the first cross-industry, large-scale panel study, which distinguishes among several types of M&A events. I begin to disentangle the outcomes of different types of M&A as they represent different types of ownership changes and their resultant organizational outcomes. Instead of considering relatedness as a dichotomous variable, I consider different levels of industry relatedness between target and acquirer. In addition, I differentiate among M&As in terms of the origin of the acquiring organization (domestic or foreign).

The aspect of entrepreneurship investigated in this article is individuals' transition from an established organization (i.e., paid employment) to founding an entirely new venture. Studying entrepreneurship as a labor market status is of interest because all entrepreneurial activity, from self-employment to high-growth ventures, in sum has a major weight in the economy (Sørensen and Fassiotto, 2011). This approach diverges from the intra-industry spinoff research, which focuses on entrepreneurship as a source of economic growth and industrial evolution (Klepper and Thompson, 2010). This distinction is important as it is unlikely that the motivation for someone to become an independent contractor is the same as for someone seeking to found the next Facebook. This article therefore concerns the wider link between M&As and all types of entrepreneurial activity that involve the founding of a new venture unrelated to the parent organization. In that way, the current article complements intra-industry spinoff studies such as Klepper (2009) and Klepper and Thompson (2010).

Despite its qualities, a limitation of the research design and data used in this article is that they do not allow us to tease out the exact mechanism by which individuals enter entrepreneurship following M&As. As such, I do not claim that the mechanisms proposed in this paper are a comprehensive account of all motives that may drive individuals into entrepreneurship. While the theoretical framework provides a plausible description of the mechanism by which an employee transitions

from employment in an M&A target to entrepreneurship, not all alternative explanations can be ruled out.

3.1. ENTREPRENEURIAL ENTRY

The definition of entrepreneurship is undoubtedly a contentious one. There are a variety of conceptualizations of entrepreneurship, which I do not aim to reconcile in this article. Here, I follow the notion of entrepreneurship as a labor market status, distinct from paid employment at an established organization (Sørensen and Sharkey, 2014). This wide understanding of entrepreneurship includes all forms of new venture formation by individuals, from self-employment to independent contractors to high-growth ventures. This is an important clarification because it encompasses all forms of new venture formation that are independent of the incumbent organization and because it excludes forms of entrepreneurship that do not result in the launch of new independent ventures. It is also an important clarification because, as Sørensen and Fassiotto (2011, pp. 1324) state, "it seems unlikely that there is a perfect overlap between the set of theoretical processes that account for changes in employment status and the set of processes that account for the likelihood that individuals will identify the next game-changing innovation."

The literature on spinoff formation generally considers that there are two main reasons why people leave paid employment for entrepreneurship: asymmetry of incentives to pursue an idea (Anton and Yao, 1995; Cassiman and Ueda, 2006; Hellmann, 2007) and strategic disagreements (Klepper and Thompson, 2010). The incentives stream argues broadly that individuals and organizations may have different valuations of opportunities or different incentives to pursue them, so that it might make perfect sense for an organization to pass up promising projects that can then be materialized by employees forming new ventures. Anton and Yao's (1995) model focuses on the incentives to pursue an idea when an employee privately discovers a significant invention. In a market with minimal start-up capital requirements and weak property rights, the employee must then choose between disclosing the invention to the organization in the expectation for adequate compensation or leaving the incumbent and pursuing the invention independently. Cassiman and Ueda's (2006) model proposes that there is an optimal project rejection level for an organization, where the organization has the comparative advantage in commercializing projects that fit with their core assets, and start-ups have the comparative advantage in commercializing projects that do not fit with the incumbent's assets. The basic functioning of this model is that discoveries happen randomly in time in an R&D department; thereafter, the organization must decide whether to pursue a project. Hellmann's (2007) model of entrepreneurship similarly hinges on the serendipity of new idea generation by employees as part of their regular jobs; Hellman argues that organizations may reject potentially profitable opportunities with limited overlap with their core business. Depending on the

distribution of IP rights, the external environment, and the organization's support of innovation, employees may then decide to leave and start their own ventures.

In general, this stream of literature largely focuses on the timely, exogenous arrival of opportunities that can be exploited by employees and their incentives to pursue such opportunities inside and outside the organization. Klepper and Thompson (2010) offer a different rationale for transitioning to entrepreneurship: specifically, strategic disagreements. They argue that it is an "empirical regularity" that new ventures are founded by top managers and engineers/scientists after disagreements on the strategies and technologies to be pursued by an organization. Disagreements arise from differences in the perception of the value of alternative ideas or strategies (Klepper and Thompson, 2010). A number of high-profile examples and mini-case studies back their theory from the automotive- to the semiconductor- to the laser industries. For example, Amelco and Signetics were formed in the early 1960s out of Fairchild's limited interest in pursuing newly developed integrated circuits. Intel arguably resulted from tensions regarding control and compensation while AMD was formed after the new management brought on by Fairchild's acquisition resulted in strategic change and the downgrade of employees who then spun off. Those championing ideas that do not prosper in an organization eventually grow frustrated and leave to start their own venture and pursue the rejected ideas or technologies on their own (Klepper and Thompson, 2010). Notably, a number of those disagreements seem to have been the result of M&As and changes in ownership, leading to clashes over changes in the strategic direction of the organization or management practices, including rewards systems.

Both the economic models that focus on the "incentive problem" with the "inventor-employee" at their core and the disagreements models in which new ventures are founded by disgruntled members of the parent's organization management account for only a portion of entrepreneurial entry. While they study an important type of entrepreneurial activity, particularly in the high-tech industries, they fail to account for the far broader phenomenon of transition from paid employment to entrepreneurship. Indeed, as noted by Sørensen and Fassiotto (2011), a large part of working individuals will have a spell of entrepreneurship by the time they retire. All types of entrepreneurship have, in sum, a major weight in the economy. Periods of entrepreneurship are a common feature of many careers, and transition to entrepreneurship arguably has much in common with job transitions between established organizations (Sørensen and Fassiotto, 2011).

Another way to study the transition from established organizations to entrepreneurship is to consider organizations as a source of opportunities. From this perspective, the opportunity structure determines differences in entrepreneurial entry rates across organizations. The relative absence of opportunities in the organization drives the transition to entrepreneurship; when opportunities for advancement within the organization are high, employees are less likely to look for outside opportunities

to advance. Like models that are focused on the "incentives problem", this perspective focuses on the choices faced by an employee with an entrepreneurial idea. This is a situational view: relevant here is the structure of the choices that are made when an employee faces the decision between continuing in the organization and entering entrepreneurship. Thus, changes to the opportunity structure within the organization change the relative attractiveness of entrepreneurship for employees as a way to advance their career. In other words, employees enter entrepreneurship because they perceive it as the best way to advance (Sørensen and Sharkey, 2014).

The basic assumption in the view of entrepreneurship as a mobility process is that it is quite similar to other employee turnover processes. In this framework, entrepreneurship is similar to the transition to another established organization, with one noticeable difference: to transition to dependent employment in another organization, the employee must be actively selected by that organization and therefore depends on the employer's perception and actions. However, the decision to go solo generally comes from the employees themselves (Sørensen and Sharkey, 2014). The framework rests on the understanding that self-employment is a viable career option for employees under some conditions (Krueger *et al.*, 2000). The transition to entrepreneurship is based on the perceived credibility of alternative carrier choices, meaning that self-employment must be conceived as to some extent a viable choice. Nevertheless, this theory is largely agnostic about individuals' proclivities and attitudes regarding risk or autonomy, focusing instead on the relative abundance of internal and external advancement opportunities rather than individuals' traits.

The opportunity structure is defined by Sørensen and Sharkey (2014, pp. 333) as "a hierarchical sequence of positions in the labor market that connected through vacancy chains." A typical example is the internal job ladder in organizations, whereby advancement by those below often requires vacancies in higher positions. Opportunity structures can thus vary along two main dimensions: the highest attainable opportunity, or ceiling, and the span of control or number of adjacent positions that compete for advancement opportunities. The maximum attainment possible will be a reflection of the number of hierarchical levels in an organization. Settings with higher ceilings will present comparatively higher advancement opportunities than flat organizational structures. For a given attainment level, opportunity structures can still differ in one's opportunities for advancement, as positions with a greater span of control mean greater competition for a vacancy at the next higher step. The span of control is determined by the number of employees with access to the next hierarchical level. A relatively greater span of control limits the prospects of advancing in the hierarchical structure. When employees are at the bottom of the organizational ladder, and internal opportunities for growth are therefore vast, the attractiveness of entrepreneurship is relatively low. However, when advancement opportunities are relatively scarce, entrepreneurship becomes relatively more enticing as a career choice.

3.2. M&AS AND ENTREPRENEURIAL ENTRY

M&As are significant organizational events that often cause profound organizational changes that affect employees' career trajectories (Carriquiry, 2018; Graebner *et al.*, 2017). Nevertheless, the impact of M&As on entrepreneurial entry has been considered tangentially in the entrepreneurship research, including Brittain and Freeman (1986), Buenstorf (2007), Klepper (2009), Klepper and Thompson (2010). The dominant logic, which comes from the intra-industry spinoff literature, is that M&As lead to strategic changes; as a consequence, disagreements over the direction of the organization flare up, which causes some employees to leave and pursue on their own path (Klepper and Thompson, 2010). Klepper and Thomson's (2010) model on disagreements outlines the potential impact of M&As on entrepreneurial entry through two possible channels. First, M&As lead to potential changes to target organizational strategies, introducing uncertainty among management about the right strategy, which leads to increased disagreements. Second, the reorganization that often results from M&As can hinder the weight of certain managers' opinion in the decision-making process. This second channel is all the more relevant when the acquirer comes from another industry. By reducing the decision-making weight of an incumbent manager on the overall strategy setting, potential for disagreements arise, increasing the likelihood that the incumbent manager will spin off.

Klepper and Thomson (2010) describe a number of cases of strategic disagreement following M&As. For example, Jim McMullen and others left General Micro-electronics (GMe) to found Electronic Arrays in 1967 following the latter acquisition by Philco-Ford the previous year. Intersil, AMD, LSI Logic, and VLSI were arguably all influenced by changes in leadership following M&As (Klepper and Thomson, 2010). The pattern of disgruntled employees spinning off and founding new ventures following M&As appears to be so pervasive that it is described by Klepper and Thomson (2010) as an empirical regularity. However, we should be cautious about building a more general explanation for entrepreneurial entry following M&As from these prominent cases. These cases refer to the transition of top executives and chief engineers in high-tech manufacturing industries to entrepreneurship, and they say little about the broader entrepreneurial entry by employees at all levels and across industries. In other words, strategic disagreements following M&As may explain some of the AMDs in the economy; however, they do not account for entrepreneurial transition more broadly.

One important element of the consequences of M&As on employees regards changes to opportunities structures. As M&As strive to achieve synergies in the postmerger process, a number of organizational changes are often introduced that affect the relative proportion of opportunities to advance. As a number of positions higher up the hierarchy are consolidated, employees of M&A targets suddenly find themselves in a system with a greater span of control for a given attainment level. This outcome translates into fewer opportunities for advancement than before as the

number of competing candidates for the next step up the ladder increases. Change in their advancement opportunities will consequently affect the relative attractiveness of transitioning to entrepreneurship, increasing the rate of new venture formation by employees of M&A targets (Krueger *et al.*, 2000; Sørensen and Sharkey, 2014). When the potential for synergies between acquirer and target is high, and thus resource redundancy is also high, the reduction of advancement opportunities will also be high, as the span of control increases with the number of employees competing for the next step up the career ladder. An increase in the span of control affects entrepreneurial entry by reducing the availability of advancement opportunities in established organizations (Sorensen and Sharkey, 2014). Thus, I expect the following:

> *Proposition 1: M&As increase employees' probability of entering entrepreneurship.*

3.3. M&A TYPE AND ENTREPRENEURIAL ENTRY

M&As take a variety of forms. The term defines the merger of two organizations or the acquisition of one organization by another; however, in reality, deals can vary substantially (Bower, 2001; Chen, 2008; Graebner *et al.*, 2017, Larsson and Finkelstein, 1999; Napier, 1989). For example, deals can differ both in their rationale and in the form in which they are carried out. An organization may acquire another organization to achieve economies of scale, to expand its scope, to diversify, to achieve financial synergies or to spread risk for the purpose of creating value (Bower, 2001; Graebner *et al.*, 2017; Haleblian *et al.*, 2009). The degree of relatedness between the target and acquirer will therefore be marked by the acquisition rationale. M&As by organizations with high technological, industry and product market similarities are typically referred to as related or horizontal M&As. Deals by organizations with dissimilar technologies or that operate in different industry- and product markets are generally referred to as unrelated or conglomerate M&As. Another salient dimension along which deals are typically characterized involves the country of origin of the acquirer. M&As between organizations with the same national origin are referred to as domestic whereas deals between organizations from different countries are termed cross-border M&As.

As M&As vary along these dimensions, not all M&As are expected to have the same impact on entrepreneurial entry. When the rationale behind a deal is to increase efficiency, the degree of post-M&A integration necessary to achieve value will be substantial (Bauer *et al.*, 2014; Chatterjee *et al.*, 1992; Napier, 1989). Related M&As are often carried out to achieve operational synergies and economies of scale (Bower, 2001; Chatterjee, 1986), which frequently implies the reduction of operational costs through workforce reduction to minimize the duplication of tasks (O'Shaughnessy and Flanagan, 1998). These deals require great levels of integration to achieve operational synergies and therefore significant intervention to materialize

gains (Larsson and Finkelstein, 1999; Paruchuri *et al.,* 2006; Puranam *et al.,* 2009; Zollo and Singh, 2004), changing routines and practices in the process (Nahavandi and Malekzadeh, 1988) and affecting the internal opportunity structure. As organizations integrate operationally and strive to reduce overhead, advancement opportunities are hindered by the reduction in the relative number of positions higher up the hierarchical organizational ladder. In the post-M&A integration, the span of control increases as the number of competing candidates for the next step in the hierarchy increases. This translates in fewer internal advancement opportunities and makes a move into entrepreneurship relatively more attractive (Sørensen and Sharkey, 2014). Consequently, related acquisitions are expected to trigger higher levels of entrepreneurial entry by increasing the span of control.

> *Proposition 2: Related M&As increase the probability of employees entering entrepreneurship.*

When the rationale for M&A deals is less focused on operational synergies, the need for integration and acquirer intervention in the target decreases (Larsson and Finkelstein, 1999; Paruchuri *et al.,* 2006; Puranam *et al.,* 2009). Unrelated M&As, for example, are generally motivated by technology/knowledge acquisition, diversification or vertical integration of the value chain. The limited overlap in terms of technologies, knowledge and markets translates into less resource redundancies than related M&As, offering little potential for operational synergies. Therefore, the targets of unrelated M&As are more likely to keep their autonomy and be subject to a more hands-off approach than targets of related M&A deals (Napier, 1989; Zollo and Singh, 2004). As a consequence, unrelated M&As may not have a substantial impact on the internal opportunity structure, as employees' span of control is relatively unaffected. In some circumstances, in fact, we can expect that M&As could potentially *improve* internal advancement opportunities by offering previously unavailable internal hierarchical steps. In the post M&A period, employees of the target may have higher chances to join the ranks of the acquirer than before, opening up a series of advancement opportunities that did not previously exist. Overall, seeing entrepreneurial entry as a mobility process does not provide a clear direction for the effect of unrelated M&As on entrepreneurial entry.

One particular aspect of unrelated M&As is that as the difference in industries between target and acquirer increases, the room for cultural differences to arise also increases (Stahl and Voigt, 2008). Social conflict and camp-building are more likely to arise as the target and acquirer become more culturally distant, potentially leading to misunderstanding and conflicts regarding routines and practices, from decision-making to compensation. Such conflicts give rise to the type of disagreements described by Klepper and Thomson (2010). Management coming from outside the industry has more limited knowledge about the value of alternative technologies; thus, disagreements with the new management over the value of an idea or project are likely. As this type of ownership change introduces the highest uncertainty over the optimal strategy, from this perspective, Unrelated M&As are most likely to

increase entrepreneurial entry. When the acquirer comes from another industry, the likelihood is all the greater that they will bring along different management styles and place less value on the decision-making capabilities of current managers. By increasing uncertainty and reducing the decision-making weight of incumbent managers on the overall strategy, Klepper and Thomson's (2010) strategic disagreements model predicts that unrelated acquisitions are a prominent trigger of entrepreneurial entry.

The second dimension along which M&A deals are typified regards the national origin of the parties. The rationale for domestic and cross-border M&As generally differ, and so do their outcomes. Domestic M&As, on the one hand, provide an opportunity for operational synergies in the integration of offices, production facilities and distribution networks (Chatterjee, 1992; O'Shaughnessy and Flanagan, 1998). The extensive structural integration of the target organization given the high resource redundancy (Larsson and Finkelstein, 1999; Paruchuri *et al.,* 2006; Puranam *et al.,* 2009; Zollo and Singh, 2004) increases employees' span of control and consequently reduces their internal advancement opportunities. As the relative lack of advancement opportunities increases the attractiveness of entrepreneurship as a career choice (Sørensen and Sharkey, 2014), I expect domestic M&As to increase entrepreneurial entry. Thus, I propose the following:

> *Proposition 3: Domestic M&As increase the probability of employees entering entrepreneurship.*

While the majority of M&A deals still involve only domestic organizations, cross-border M&As are extensively and increasingly used as an internationalization strategy (Shimizu *et al.,* 2004). Cross-border M&As represent a widespread mode of entry into new foreign markets, and they are an alternative to greenfield investments and other nonequity-based modes of market entry (Harzing, 2002). Cross-border M&As enable acquirers to gain access to foreign markets and to tap into the resources, knowledge, human capital and technologies of the target organization (Shimizu *et al.,* 2004). As these deals are often a means to enter new markets in geographically distant locations, structural integration of the target organization in these deals is typically limited (Larsson and Finkelstein, 1999). Cross-border M&As offer relatively few opportunities for operational synergies, resulting in less extensive intervention by the acquirer. Thus, cross-border M&As have little impact on opportunity structures through employees' span of control. Moreover, it is possible that cross-border M&As may actually *increase* employees' advancement opportunities. Organizations that operate globally may offer advancement opportunities that may have been unattainable before the M&A, thereby increasing the internal opportunity ceiling. This can potentially decrease the relative attractiveness of entering entrepreneurship for employees. Considering entrepreneurial entry as a mobility process, it is thus likely that cross-border deals have either no effect or a negative effect on the probability that employees of the target organization leave to found their own ventures.

At the same time, cross-border M&As add a supplementary level of acculturation for target employees (Very *et al.*, 1996). National cultures define deeply ingrained systems of beliefs, values and norms. Cultural differences often offer potential unique complementarities (Morosini *et al.*, 1998); however, they also give way to potential disagreements. In fact, these differences have often been associated with organizations' inability to reap the benefits of cross-border M&A deals (Buono *et al.*, 1985; Chatterjee *et al.*, 1992; Stahl and Voigt, 2008) as they increase misunderstandings, conflict, and camp-building (Cartwright and Cooper, 1993). Although the model of strategic disagreements (Klepper and Thomson, 2010) does not specifically consider national cultural differences, its underlying logic indicates that such differences increase conflict and shift the decision-making power away from the target's management. However, the conception of national cultural differences as a source of conflict in cross-border M&As has been disputed. Vaara *et al.* (2012), for example, found a negative association between national cultural differences on social conflict in cross-border deals by Finnish companies. As Weber *et al.* (1996) note, cultural distance does not necessarily translate into incongruence because congruence can also be achieved by complementarity rather than similarity. Stahl and Voigt (2008) argue that the higher attention paid to national cultural difference in cross-border deals decreases the negative integration outcomes with respect to organizational culture differences. Weber *et al.* (1996) also found that, unlike organization cultural differences, national culture differences in cross-border deals have a positive effect on integration and cooperation. Thus, given the limited post-M&A integration in cross border deals, and the mixed evidence of disagreements and conflict from national cultural differences, it is unclear what the strategic disagreements model predicts regarding the effect cross-border M&As on entrepreneurial entry.

3.4. WHO ENTERS ENTREPRENEURSHIP

Following the discussion up to this point, a natural question is as follows: who enters entrepreneurship in greater numbers following M&As? The economic models (Anton and Yao, 1995; Cassiman and Ueda, 2006; Hellmann's 2007) are all centered on the inventor-entrepreneur paradigm. Those models are based on the serendipity of invention discovery at work, and therefore potential entrepreneurial activity comes from the lab. In practice, this means that entrepreneurial entry of the type defined in the economic model comes from engineers and scientists. It follows that any impact of M&As on entrepreneurship must be through an effect on this group of employees.

Entrepreneurial entry in the strategic disagreements model, however, comes from disgruntled members of top management and chief engineers. Executives start their own venture when disagreements arise either due to their being downgraded and losing influence in the organizations' decision-making or due to the refusal of the organization to pursue a specific strategy. Engineers leave out of frustration for the

lack of support for a specific technology that they champion. M&As provide an arena for the disagreement for both executives and engineers as changes in management and strategic changes affect the influence of executives and the refinement of R&D portfolios and product pipelines truncates the progress of a number of projects.

Transition to entrepreneurship from a sociological perspective is largely agnostic about the characteristics of departing employees entering entrepreneurship: In principle, all employees may seek entrepreneurship as an alternative for potential advancement. Nevertheless, differences can arise both from the position of individuals in the opportunity structure and from how well-matched they are to their jobs. According to Sorensen and Sharkey (2014), blue-collar employees can in principle advance to white collar positions, whereas white collar employees run out of advancement opportunities as they progress in the hierarchy. Those in white collar positions are closest to the opportunity ceiling and have fewer opportunities for internal advancement, and they will be most likely to leave as a result of changes on the opportunity structure following M&As. This aspect should be particularly acute for managers who are already closest to the opportunity ceiling. Another important prediction of Sorensen and Sharkey's (2014) model is that the better matched employees are to their employers, the more likely they will be to enter entrepreneurship if they decide to leave. Better-matched employees stay in the organization for a longer time period, during which they develop organization-specific skills or combinations of skills that are most valuable to that specific organization. They are more likely to be stuck in their current organization as their skills are less valued by other organizations. Thus, advancement opportunities in other established employers are relatively more limited, and entrepreneurship becomes a more attractive option to advance their careers. Therefore, those who have remained in the organization the longest (tenure) are more likely to transition to entrepreneurship as in response to changes in the opportunity structure due to M&As.

The above discussion leads to alternative propositions based on employees' organizational rank as the economic model predicts that engineers/scientists will enter entrepreneurship, the disagreement model predicts that both top engineers/scientists and managers will enter entrepreneurship, and the opportunity structure model predicts that managers will do so. With regard to employee tenure in the organization, the only prediction comes from the opportunity structure model.

Proposition 4a: M&As increase the probability of scientists entering entrepreneurship.

Proposition 4b: M&As increase the probability of managers entering entrepreneurship.

Proposition 5: M&As increase the probability of long-tenured employees entering entrepreneurship.

3.5. EMPIRICAL STRATEGY AND DATA

The proposed links between M&As and entrepreneurship pose some analytical challenges. On one hand, they require a large dataset that is capable of tracking individual mobility patterns in and out of organizations. In addition, observing the relative value of alternative employment and entrepreneurial opportunities available to individuals requires an in-depth study of individuals and organizations. On the other hand, these analyses require individuals to be matched to organizations that undergo M&As and organizations that do not to compare how M&As affect entrepreneurial entry. Analyzing the process by which M&As shape entrepreneurial opportunities and their desirability requires in-depth studies of those organizations, which would result in small idiosyncratic samples or even single-organization studies. I am not aware of any dataset that would provide both the in-depth study of the link between M&As and entrepreneurial entry and the breadth to track individual mobility patterns across time and across organizations. Given the unavoidable trade-off between depth and breadth, in this article I have favored breadth over depth to avoid results that may be idiosyncratic to a small set of organizations. Therefore, while I provide direct evidence of entrepreneurial entry and its link to M&As, it cannot unambiguously show the exact mechanism by which employees decide to enter entrepreneurship.

A challenge of studying entrepreneurship as a result of organizational phenomena in general and M&A in particular relates to the linking of entrepreneurs to their source organizations. Large-scale datasets that consistently track individuals' employment are hardly available, particularly those that map the transition from employment at established organizations to entrepreneurship. To overcome this challenge, I make use of the Danish entrepreneurship database to track the founding of new organizations in the period from 2000 to 2010. This dataset includes all newly founded businesses registered in Denmark including both personal and incorporated companies. These data are maintained by Statistics Denmark, which links new businesses to their founders via their respective social security numbers. I then matched this dataset to the Danish Integrated Database for Labor Market Research, known as IDA for its acronym in Danish. The IDA is a large dataset collected for research purposes from several governmental bodies and anonymized by Denmark Statistics. It contains information on virtually all organizations registered in Denmark and all residents since 1980, and it is annually updated at the end of November, except for education (October) (see Timmermans (2010) for more details on the IDA). Some of the most influential articles that have utilized IDA include Dahl (2011), Nanda and Sørensen (2010), and Sørensen and Sorenson (2007). The second challenge is to link entrepreneurial entry to employees of organizations that undergo M&As (treated group) and that do not (control group). To this end, I

combined the resulting dataset to the Bureau van Dijk's Zephyr database on M&A deals. The Zephyr database is based on analyst reports, and it contains information on M&A deals and the parties involved. It has been used for several articles including Arora and Nandkumar (2011) and Useche (2014).

The link between the Zephyr database and the IDA is performed by Denmark Statistics and restricts the use of several variables to preserve the anonymity of organizations and individuals. The final dataset is composed of 15,597 organization-year and 69,671 individual-year observations. To capture individual's heterogeneity, a set of demographic and job-related variables is used as controls. Job-related variables include wage, job tenure and 7 dummies for organizational rank. Demographic variables include age, sex, education, marital status and number of children.

In addition to individual heterogeneity, we must also control for differences across organizations. To this end, I first control for possible confounding variables. It is important to control for organizational size as it is well documented that employees of smaller organizations are more likely to enter entrepreneurship (Sørensen, 2007). Additionally, the opportunity costs for an employee entering entrepreneurship can be higher for those in successful organizations with strong performance records (Sørensen and Fassiotto, 2011). Nevertheless, it has also been reported that better-performing organizations have a higher rate of entrepreneurial transition (Klepper, 2009). Thus, size, profit and sales in the 2 time periods before the M&A are also included to control the effect of previous organizational performance on entrepreneurial entry. Finally, to further isolate the effect of organizational heterogeneity, all models include organization fixed effects. In all models, I use a difference-in-difference technique, which estimates the effect of M&As on the entrepreneurial transition by comparing the before-and-after for the treated and control groups and computing the differences in means due to the M&A. This enables us to mimic an experimental design, allowing for the treatment and control groups to be heterogeneous. The descriptive statistics of the used sample show that organizations that undergo M&As have some difference in terms of size and profits with respect to the control organizations. Employees of those organizations, however, are remarkably similar in observables.

All the models in this article are linear probability models with standard errors clustered at the organizational level. The choice of model is marked by the necessary inclusion of organization fixed effects to control for organizational heterogeneity. Stata is not able to handle logistic regression models with organization fixed effects due to the numerical overflow problem; therefore, it is computationally unfeasible to run such a model (Dahl and Pierce, 2018). Standard errors are clustered (robust) at the organizational level to correct for intra-organization correlation in error terms across employees of the same organization. For robustness, standard errors are also block-bootstrapped (500 repetitions) with the same results.

Consistent with the literature on the topic, particularly from labor economics (e.g., Stevens, 2003), we use tenure as a proxy for organization-specific knowledge. This measure, although imperfect, is widely used in the literature as it is recognized that organization-specific knowledge increases through on-the-job formal and informal training. In addition, the inverse relationship between employee turnover rate and tenure indicates that the quality of the match increases with job tenure; thus, better matched employees stay at the same organization longer. Overall, we should expect that, net other confounding variables, tenure is a proxy for organization-specific knowledge. Also consistent with the labor economics literature, wage is used as a measure of the value an employee holds for the organization due to either better matching quality or human capital accumulation, whether that is general, organization, occupation or industry-specific human capital (Altonji and Williams, 2005; Becker, 1964; Stevens, 2003).

One of the interesting features of the Danish labor market is that entrepreneurship is most often voluntary given the generous system of unemployment benefits. This reduces the proportion of necessity-driven entrepreneurs since the opportunity costs of entering entrepreneurship are higher than in other countries. As Sørensen and Sharkey (2014) show, this means that workers choose to be unemployed rather than matched poorly to an organization. It also means that entrepreneurial entry is not more predominant among workers at the lowest end of the income distribution. As found by Carriquiry (2018), M&As increase employee turnover for employees with relatively low human capital. If it holds true that transition to entrepreneurship is mostly voluntary and not necessity-driven, then we will also expect to find no significant increase in entrepreneurial entry at the lowest end of the income distribution.

3.5.1. VARIABLES

Treatments

M&A: The main treatment (M&A) is defined as a binary variable that takes a unitary value if the organization is acquired and zero otherwise. Deals are considered to happen on the date of execution. An individual is treated when working for an organization the year in which that organization is the subject of an M&A. Individuals who join an organization that is the target of an M&A after the acquisition are not considered to be treated.

Domestic and cross-border M&As: The country of origin of the acquiring organization determines whether the deal is considered domestic or cross-border. Domestic M&A deals are those in which both the acquiring and target organizations are based in Denmark. Cross-border M&As are those in which the target is based in Denmark whereas the acquiring organization is based abroad.

Related, closely related, broadly related and unrelated M&As: Relatedness is defined in terms of NACE industry classification. It is defined as a spectrum from related to unrelated based on the overlap between industries in which the organizations operate. Since Statistics Denmark differentiates between 'primary' (core) and 'secondary' (noncore) industries of operation, this enables the construction of 4 categories as follows: 'Closely related' M&As are those in which the primary industry of both organizations is the same, based on the 4-digit industry classification (NACE codes). 'Related' M&As are those in which any of the industries in which the target operates overlaps with the industry of the acquirer based on a 2-digit NACE code as the precision of secondary industries is often reduced in the dataset. M&As are considered 'broadly related' if the overlap is exclusively on only noncore industries (2 –digit NACE codes). Unrelated M&As, on the other hand, are those for which no overlap exists between target and acquirer operating industries. It should be noted that the full list of industries is restricted by Statistics Denmark following the calculation of these variables to preserve the anonymity of the organizations and the individuals in the sample.

In all models, the control group is composed of individuals and their respective organizations that do not undergo an M&A. In other words, individuals who undergo a domestic M&A are compared to individuals who do not undergo *any* type of M&A. The same applies for all other treatments: those treated by a related M&A are compared to those who do not undergo an M&A at all. The same holds when the regressions are split, e.g., by organizational rank: managers who work for an M&A target are compared to managers who do not undergo an M&A.

Dependent variables

The dependent variable for the analysis of M&As on new venture formation is a binary variable with an outcome equal to 1 if an employee becomes an entrepreneur in the following year. The employee must have registered the business as either a personal or incorporated business. All individuals in the sample started a business between 2000 and 2010. If the outcome is 1 at time t_0, the employee is registered as an entrepreneur in the database to have transitioned into entrepreneurship between t_{-1} and t_0. Here, it is important to note that to qualify as self-employed or as an entrepreneur for Statistics Denmark, an individual may not work exclusively for one employer. This means that the practice of transitioning to self-employment to rejoin the organization as an individual contractor is typically not allowed by tax authorities –individuals who work exclusively for an organization are required to be on that organization's payroll.

Independent variables and controls

At the individual level, demographic control variables include age (years); sex (dummy: 1 female, 0 male); marital status (dummy: 1 married, 0 unmarried); and number of children (2 variables, based on the children's age) as well as 5 dummies for the highest educational attainment (primary school, high-school/gymnasium,

vocational training, college, university). Job-related individual-level variables include wage (DKK, ten-thousand); job tenure (years) and 7 dummies for organizational rank based on the ISCO classification (managers, professionals, technicians, clerks and administrative employees, blue-collar employees, service and sales employees, and unknown).

At the organization level, the control variables include organizational size (number of employees, FTE); profit (DKK, million); sales (DKK, million); location (categorical, 22 labor market regions); industry (categorical, 10-group based on NACE Rev.2); and sector (dummies, 2 for services and 4 for manufacturing based on the Eurostat High-tech aggregation by NACE Rev.2).

Sample

The final sample is described in Table XVI through Table XVIII. The main treatment group includes 6,200 unique organization-year observations whereas the control group includes 9,397. The treated organizations are relatively larger in size (FTEs and sales) and more profitable (in total terms) at all time periods. Treated organizations are slightly more likely to operate in knowledge-intensive services and low-tech manufacturing than the control organizations. The organizations that are targets of domestic M&As are relatively smaller and less profitable than those subject to cross-border M&As, although they are both larger than the control organizations. Cross-border M&A targets are slightly more represented in the knowledge-intensive services and high-tech manufacturing industries than domestic M&A targets.

Considering industry relatedness, unrelated M&A targets are slightly smaller (130 FTE) and more profitable (11.9 DKK million) than closely related M&A targets (137 FTE, 11.7 DKK million) whereas organizations that are subject to broadly related M&As are larger and substantially more profitable (173 FTE, 31.1 DKK million). Unrelated targets have the smallest probability of happening in high-tech manufacturing and knowledge-intensive sectors. M&As in low-tech manufacturing have the highest probability of being closely related or related M&As whereas the highest proportion of deals in high-tech manufacturing are by broadly related M&As.

Table XVI: Descriptive Statistics - Organizations

	All	M&A (Treated)	No-M&A (Control)	Domestic	Cross-border
Size (FTE)	113.521	132.442	101.037	122.037	144.817
	(284.661)	(370.585)	(208.574)	(422.808)	(296.348)
Size (FTE), t_{-1}	112.800	131.887	100.144	121.867	143.724
	(286.835)	(373.105)	(210.079)	(427.928)	(295.151)
Size (FTE), t_{-2}	112.800	131.887	100.144	121.867	143.724
	(286.835)	(373.105)	(210.079)	(427.928)	(295.151)
Profits, gross (DKK, mln)	9.586	12.683	7.555	10.155	15.670
	(116.591)	(153.998)	(83.356)	(153.934)	(154.046)
Profits, gross (DKK, mln) t_{-1}	9.810	13.455	7.413	10.183	17.298
	(115.813)	(153.433)	(82.073)	(150.295)	(156.979)
Profits, gross (DKK, mln) t_{-2}	10.356	14.403	7.700	11.141	18.190
	(116.212)	(155.975)	(79.921)	(149.880)	(162.709)
Sales, gross (DKK, mln)	240.043	285.380	210.317	274.925	297.706
	(780.803)	(953.049)	(641.622)	(1056.543)	(814.320)
Sales, gross (DKK, mln) t_{-1}	229.541	269.044	203.526	260.495	279.061
	(736.388)	(886.040)	(617.043)	(991.570)	(743.642)
Sales, gross (DKK, mln) t_{-2}	216.288	251.839	192.919	246.079	258.503
	(678.723)	(807.038)	(577.953)	(903.836)	(678.119)
Knowledge-intensive services	0.242	0.257	0.232	0.243	0.273
	(0.428)	(0.437)	(0.422)	(0.429)	(0.446)
Not knowledge-intensive services	0.369	0.357	0.377	0.361	0.352
	(0.483)	(0.479)	(0.485)	(0.480)	(0.478)
High-tech industry	0.026	0.025	0.026	0.023	0.028
	(0.158)	(0.157)	(0.158)	(0.150)	(0.165)
Medium high-tech industry	0.123	0.125	0.121	0.112	0.141
	(0.328)	(0.331)	(0.327)	(0.315)	(0.348)
Medium low-tech industry	0.088	0.082	0.092	0.085	0.078
	(0.283)	(0.274)	(0.289)	(0.279)	(0.268)
Low-tech industry	0.088	0.094	0.085	0.096	0.092
	(0.284)	(0.292)	(0.278)	(0.294)	(0.289)
Region	5.768	5.742	5.786	6.179	5.222
	(3.547)	(3.553)	(3.543)	(3.538)	(3.502)
Primary industry, 10-Std.grp.	4.037	4.077	4.011	4.106	4.043
	(2.021)	(2.055)	(1.998)	(2.091)	(2.011)
Number of Organization-year Observations	15,597	6,200	9,397	3,368	2,832

Means; SD in parenthesis.

Table XVII: Descriptive Statistics - Organizations - M&A Type by Industry Relatedness

	Closely Related	Related	Broadly Related	Unrelated
Size (FTE)	136.830	134.666	173.325	130.171
	(261.357)	(261.067)	(330.588)	(465.387)
Size (FTE), t_{-1}	136.816	133.767	169.826	130.007
	(264.963)	(261.333)	(325.604)	(469.450)
Size (FTE), t_{-2}	136.816	133.767	169.826	130.007
	(264.963)	(261.333)	(325.604)	(469.450)
Profits, gross (DKK, mln)	11.691	13.384	31.116	11.915
	(197.387)	(161.576)	(114.356)	(145.169)
Profits, gross (DKK, mln) t_{-1}	11.784	13.628	30.754	13.287
	(192.841)	(159.014)	(113.871)	(147.109)
Profits, gross (DKK, mln) t_{-2}	13.406	14.212	29.662	14.652
	(192.681)	(158.331)	(109.624)	(153.521)
Sales, gross (DKK, mln)	320.882	320.141	392.004	246.426
	(1,122.718)	(1,023.696)	(1,019.914)	(865.628)
Sales, gross (DKK, mln) t_{-1}	305.509	302.115	364.011	232.067
	(1,046.345)	(954.901)	(956.164)	(800.659)
Sales, gross (DKK, mln) t_{-2}	286.760	282.584	340.910	217.646
	(962.659)	(874.243)	(886.893)	(723.609)
Knowledge-intensive services	0.255	0.285	0.226	0.225
	(0.436)	(0.452)	(0.419)	(0.418)
Not knowledge-intensive services	0.347	0.342	0.412	0.373
	(0.476)	(0.475)	(0.493)	(0.484)
High-tech industry	0.026	0.027	0.060	0.023
	(0.160)	(0.163)	(0.238)	(0.150)
Medium high-tech industry	0.122	0.117	0.168	0.134
	(0.327)	(0.321)	(0.374)	(0.341)
Medium low-tech industry	0.055	0.058	0.054	0.108
	(0.228)	(0.235)	(0.226)	(0.311)
Low-tech industry	0.128	0.111	0.039	0.074
	(0.334)	(0.314)	(0.193)	(0.261)
Region	5.931	5.624	4.897	5.873
	(3.659)	(3.606)	(3.456)	(3.492)
Primary industry, 10-Std.grp.	4.317	4.194	3.944	3.946
	(2.321)	(2.114)	(1.785)	(1.978)
Number of Organization-year Observations	1,982	3,300	464	2,893

Means; SD in parenthesis.

Table XVIII: Descriptive Statistics - Employees

	All	M&A (Treated)	No-M&A (Control)
Entrepreneurial entry	0.056	0.055	0.057
	(0.230)	(0.228)	(0.232)
Wage (DKK; 0,000)	37.273	37.738	36.873
	(31.916)	(34.244)	(29.754)
Job tenure (years)	3.064	2.852	3.247
	(4.817)	(4.573)	(5.010)
Age (years)	37.457	37.406	37.500
	(9.054)	(8.945)	(9.146)
Primary school	0.199	0.203	0.195
	(0.399)	(0.402)	(0.396)
High-school/gymnasium	0.101	0.107	0.096
	(0.302)	(0.309)	(0.295)
Vocational training	0.360	0.348	0.369
	(0.480)	(0.476)	(0.483)
College	0.210	0.211	0.209
	(0.407)	(0.408)	(0.407)
University	0.131	0.131	0.131
	(0.337)	(0.337)	(0.337)
Marital status	0.733	0.739	0.729
	(0.628)	(0.630)	(0.626)
Sex	0.202	0.203	0.202
	(0.402)	(0.402)	(0.401)
Number of children, age 0-6	0.451	0.452	0.450
	(0.730)	(0.728)	(0.732)
Number of children, age 7-12	0.336	0.338	0.334
	(0.630)	(0.631)	(0.630)
Number of children, age 13-18	0.206	0.199	0.212
	(0.499)	(0.489)	(0.507)
Unknown rank	0.147	0.144	0.150
	(0.354)	(0.351)	(0.357)
Manager	0.103	0.103	0.103
	(0.304)	(0.304)	(0.303)
Professional	0.149	0.140	0.156
	(0.356)	(0.347)	(0.363)
Technicians	0.207	0.222	0.194
	(0.405)	(0.416)	(0.396)
Clerks and admin employees	0.055	0.056	0.055
	(0.229)	(0.229)	(0.229)
Service and sales employees	0.049	0.049	0.049
	(0.217)	(0.217)	(0.217)
Blue-Collar employees	0.209	0.203	0.214
	(0.406)	(0.402)	(0.410)
Observations	69,671	32,283	37,388

Means; SD in parenthesis.

3.1. RESULTS

3.1.1. MAIN RESULTS

In Table XIX, we observe the main results of the difference-in-differences regression. The models presented in the table are identical in all respects except the length of the time window *after* the event. All models include controls for demographic variables, employee rank, and organizational performance, as well as industry, year, location and organization fixed effects. At t_0, we can observe that the M&A has occurred, meaning that it happened at a point in time between t_{-1} and t_0. Column (1) displays the difference-in-differences estimate for the time window between t_{-5} and t_{+5}, which thus includes 6 time points (years) after the event. As we can see, this model shows that there is no significant effect of M&As on entrepreneurship when we consider an extended *post* time period. This means that, whatever the effect of M&As on entrepreneurial entry, it does not show over an extended time period. The model in column (2) of Table XIX shows the results for the time window t_{-5} and t_{+3}, meaning 4 time points following the M&A. Here, it is again shown that there is no significant effect of M&As on entrepreneurship for this time window. This means that there is no effect of M&A on entrepreneurship that sustains over several years after the deal closure. The model in column (3) displays the results for the time window t_{-5} and t_0. Here, things look quite different: there is a significant effect of M&As on entrepreneurial entry, if we limit the time window to the period immediately after the closure of the deal (t_0). There is a 2.0% increase in the entrepreneurship rate overall, which for the baseline rate means there is a 36.4% increase in the probability that employees will transition to entrepreneurship as a result of the M&A. In all cases, the period post M&A is not significant, meaning that differences in the entrepreneurship rates in the post period are not significantly different when the interaction with the treatment is considered. From this analysis, we can conclude that M&As do increase entrepreneurial entry but that this happens in the period immediately after the deal is closed. If we consider further time periods, the effect disappears, meaning that the effect is both significant and short-lived. We can thus confirm Proposition 1: M&As increase employees' probability of entering entrepreneurship, with the caveat that the effect does not sustain over time.

Table XIX: Entrepreneurial Entry, Linear Probability Models, Difference-in-Differences

	(1)	(2)	(3)
Period post M&A	0.002	0.004	-0.006
	[0.006]	[0.007]	[0.007]
M&A x Post	0.004	0.006	0.020**
	[0.006]	[0.007]	[0.009]
Demographic variables	Yes	Yes	Yes
Employee rank	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes
Organization fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes
R2	0.00	0.01	0.01
Log-likelihood	3,652	2,504	1,312
Number of Organizations	2,621	2,436	1,803
Observations	50,255	35,086	21,681

(1) Window: -5>=t<=5; (2) Window: -5>=t<=3; (3) Window: -5>=t<=0.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01). Full regression results available on request.

3.1.2. M&A TYPES

In Table XX, we turn to the acquirer's country of origin analysis and industry relatedness. In columns (1) through (4), we find the results of the difference-in-differences linear probability models according to industry relatedness, from closely related to unrelated. Column 1 shows that closely related M&As do not have a significant effect on entrepreneurial entry. Thus, M&As between organizations whose core industry is the same do not increase employees' probability of transitioning into entrepreneurship. Conversely, column (2) shows that related M&As (but not closely related) increase the entrepreneurial entry rate by 2.0%. This means that when there a certain degree of overlap in industries but not specifically on the core industries of both organizations, M&As increase entrepreneurial transition by approximately 36.4% with respect to the baseline rate. The results for broadly related M&As (i.e., deals where only secondary industries overlap), is displayed in column (3). The effect of M&As on entrepreneurial entry (61.8%) is even stronger, but at a lower significance level (p<0.10). However, unrelated M&As do not significantly increase entrepreneurial transition –as shown in column (4). Overall, these results indicate that neither "extreme" of the industry-relatedness spectrum increases entrepreneurial entry; however, those deals in between do. This could potentially describe some form of curvilinear relationship between industry relatedness and entrepreneurship. At any rate, proposition 2 is only partially confirmed, as related M&As increase the probability of employees entering entrepreneurship; however, closely related M&As do not.

Table XX: Entrepreneurial Entry by M&A Type, Linear Probability Models, Difference-in-Differences

	(1)	(2)	(3)	(4)	(5)	(6)
Post M&A	-0.009	-0.007	-0.004	-0.005	-0.009	-0.005
	[0.007]	[0.007]	[0.007]	[0.007]	[0.007]	[0.007]
Closely related M&A x Post	0.012					
	[0.011]					
Related M&A x Post		0.020**				
		[0.009]				
Broadly related M&A x Post			0.034*			
			[0.018]			
Unrelated M&A x Post				0.011		
				[0.010]		
Domestic M&A X Post					0.022**	
					[0.011]	
Cross Border M&A X Post						0.015*
						[0.009]
Demographic variables	Yes	Yes	Yes	Yes	Yes	Yes
Employee rank	Yes	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes	Yes
Organization fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.01	0.01	0.01	0.01	0.01	0.01
Log-likelihood	1,195	1,293	1,167	1,211	1,190	1,285
Number of Organizations	1,573	1,658	1,483	1,647	1,668	1,632
Observations	16,546	18,609	15,160	17,553	17,383	18,839

Window: -5>=t<=0. Standard errors are clustered at the level of the organization and reported in brackets. Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01). Full regression results available on request.

In the remaining columns, we turn to the analysis of the acquirer's country of origin (i.e., domestic acquisition or cross-border acquisition). The results in column (5) indicate that domestic M&As have a positive and significant effect of 2.2% on entrepreneurial transition. This translates into an increase of 40.0% in the baseline for the treated (5.5%). This result supports Proposition 3: Domestic M&As increase the probability of employees entering entrepreneurship. Similarly, cross-border M&As (column (6)) are also shown to increase transition to entrepreneurship by 1.5%, which translates into a 27.3% increase on the baseline. Although we must be cautious about the latter as it is only significant at the 10% significance level (p<0.10), this finding indicates that cross-border M&As are also not totally exempt from the forces that drive the employees of M&A targets into entrepreneurship.

3.1.3. WHO ENTERS ENTREPRENEURSHIP?

In Table XXI, we turn to the analysis of *who* transitions to entrepreneurship as a result of M&As. The first aspect that we consider is the rank of individuals within the organization, split according to the categories previously outlined: managers,

professional, technicians, clerks and administrative employees, service and sales employees, and blue-collar employees (group "unknown" omitted). The results from this table are clear cut: with regard to which group of employees transitions to entrepreneurship as a result of M&As, the answer is managers. Whereas the change is not significant for other groups of employees (on average), managers are significantly more likely to transition to entrepreneurship following M&As. This result is consistent with the proposition that those closest to the internal opportunity ceiling are more likely to transition to entrepreneurship to advance their career. Managers, who have few opportunities to grow internally, as the number of higher positions in the organizational ladder is limited and their span of control is suddenly enlarged, transition to entrepreneurship to advance their careers.

Table XXI: Entrepreneurial Entry by Employee Rank, Linear Probability Models, Difference-in-Differences

	(1)	(2)	(3)	(4)	(5)	(6)
Post M&A	-0.030	-0.009	0.007	-0.016	-0.010	0.016
	[0.020]	[0.021]	[0.014]	[0.027]	[0.033]	[0.018]
M&A x Post	0.087***	-0.007	0.009	0.005	0.035	-0.007
	[0.028]	[0.027]	[0.017]	[0.030]	[0.036]	[0.023]
Demographic variables	Yes	Yes	Yes	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Organization fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.04	0.01	0.01	0.03	0.03	0.02
Log-likelihood	379	235	879	547	344	434
Number of Organizations	715	593	889	400	227	725
Observations	2,492	3,501	4,599	1,128	1,033	4,529

(1) Managers (2) Professionals (3) Technicians (4) Clerks (5) Service/Sales (6) Blue-Collar.
Window: -5>=t<=0. Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01). Full regression results available on request.

In Table XXII, the regressions are split according the tenure quintiles, with the lowest 20% displayed in column (1) and the highest 20% displayed in column (3). Tenure is used as a proxy for matching quality, and the view of entrepreneurship as a mobility process poses that better-matched employees (i.e., with prolonged tenure) are the most likely to go solo as a result of changes to the internal opportunity structure. Tenure quintiles are based on industry-year-organizational rank groups; thus, each employee is considered to be in a certain quintile with respect to others in the same industry, the same year and at the same organizational level. The results show that the increase in entrepreneurial entry is not highly significant for any specific group in terms of tenure, with those in the lowest quintile showing the most significant effect. This result is not in line with the prediction that those who have spent the most time in the organization (i.e., who are better matched and have developed substantial organization-specific skills) will be particularly more likely to transition to entrepreneurship in the event of an M&A. The results furthermore

indicate that, on average, only those who have joined the organization recently are in fact more likely to enter entrepreneurship than before joining the organization.

Table XXII: Entrepreneurial Entry, by Employee Tenure Quintile, Linear Probability Model

	(1)	(2)	(3)
Post M&A	-0.004	0.000	-0.029
	[0.012]	[0.015]	[0.022]
M&A x Post	0.031*	0.023	0.004
	[0.018]	[0.022]	[0.030]
Demographic variables	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Organization fixed effects	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes
R2	0.01	0.02	0.01
Log-likelihood	1,262	950	279
Number of Organizations	1,290	1,007	641
Observations	6,892	4,061	2,480

(1) Lowest quintile - (2) Middle quintile - (3) Highest quintile.
Window: -5>=t<=0. Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01). Full regression results available on request.

displays the regression results according to wage quintiles. Like the tenure quintiles, the wage quintiles are based on the industry-year-organizational rank groups; thus, each employee is considered to be in one of the quintiles with respect to others in the same industry, the same year and at the same organizational rank. Column (1) shows that those in the lowest end of the wage distribution are not particularly more likely to enter entrepreneurship as a result of an M&A. Similarly, column (3) shows that the same applies for those in the highest quintile of the wage distribution. However, for those in the middle, there is evidence of a positive effect of M&As on entrepreneurial transition, albeit at the 10% confidence level only ($p<0.10$). This result is not in line with the prediction that those with the highest wages (presumably the best matched employees) are more likely to enter entrepreneurship following an M&A.

Table XXIII: Entrepreneurial Entry by Wage Quintile, Linear Probability Models, Difference-in-Difference

	(1)	(2)	(3)
Post M&A	-0.013	-0.011	-0.006
	[0.027]	[0.016]	[0.012]
M&A x Post	0.029	0.047*	0.016
	[0.037]	[0.025]	[0.015]
Demographic variables	Yes	Yes	Yes
Organizational Performance	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Organization fixed effects	Yes	Yes	Yes
Location fixed effects	Yes	Yes	Yes
R2	0.03	0.02	0.01
Log-likelihood	-1	810	1,584
Number of organizations	990	946	1,151
Observations	3,376	3,436	7,349

(1) Lowest quintile - (2) Middle quintile - (3) Highest quintile.
Window: -5>=t<=0. Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01), Full regression results available on request.

3.2. DISCUSSION

This article set out to study the impact of M&As on entrepreneurial entry. The main proposition was that M&As affect opportunity structures and thus trigger entrepreneurial entry by those employees working for M&A targets. To that end, this article provides concrete evidence that M&As indeed increase transition to entrepreneurship for employees of M&A targets. In doing so, the article supports and extends the previous studies on entrepreneurial entry in high-tech industries that have considered M&As to be a relevant factor (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper, 2009; Klepper and Thomson, 2010). It also shows that this transition is particularly marked for employees in management positions who are arguably closest to the ceiling in the internal opportunity structure (Sørensen and Sharkey, 2014). For managers, M&As increase the attractiveness of entrepreneurship as a career choice, triggering the transition to entrepreneurship. The sudden increase in the span of control due to an M&A means that managers' advancement opportunities are curtailed, translating into higher entrepreneurial entry rates.

This is not the only potential explanation for the observed phenomenon, however. In particular, the model of strategic disagreements proposed by Klepper and Thomson (2010) arrives at similar predictions. Nevertheless, although managers may transition to entrepreneurship after disagreements on the strategies and technologies to be pursued by an organization, I find no evidence that this is the case for engineers/scientists, as expected by Klepper and Thomson (2010) and other entry models (Anton and Yao, 1995; Cassiman and Ueda, 2006; Hellmann, 2007). Overall, I believe the evidence of this cross-industry analysis is more supportive of

entrepreneurship as a mobility process as depicted by Sørensen and Sharkey (2014). That said, an important prediction of Sørensen and Sharkey (2014) is that well-matched employees are more likely to transition to entrepreneurship as a result of shifts to internal opportunity structures. I found no evidence that this is the case, and in fact it appears those who have been with the organization for the shortest time period (relative to their industry peers that year) are most likely to make the transition to entrepreneurship as a result of the M&A.

One key finding of this article is that the impact of M&As on entrepreneurial transition is short-lived. The increase in entry following M&As disappears over time; thus, it becomes insignificant in the longer run. Once managers leave the organization to found their own ventures, the remaining managers are no longer more likely to transition to entrepreneurship, on average. This also means that the reaction from those managers entering entrepreneurship is swift, and they do not remain with the organization long after the deal is closed. The implications of this finding are mostly practical: managers whose career trajectories are truncated by the M&A will seek to transition to entrepreneurship quickly, and the organization will not continue to bleed out managers in the medium term. This is important as the loss of managerial talent has often been reported as a consequence of M&As (Cannella and Hambrick, 1993; Walsh and Ellwood, 1991; Younge *et al.* 2014) and as a potential cause behind their lack of success (Cartwright and Schoenberg, 2006; Marks and Mirvis, 2001).

Another key finding is that M&As are not a homogeneous phenomenon, nor is their impact on entrepreneurial transition. In this case, of particular interest is the degree of industry relatedness between target and acquirer. The M&A literature (Larsson and Finkelstein, 1999; Paruchuri *et al.*, 2006; Puranam *et al.*, 2009; Zollo and Singh, 2004) would have suggested that the closer the degree of relatedness, the higher the levels of integration will be needed to fully unlock the value of the deal. Higher levels of resource redundancy and a greater span of management control would suggest that the higher the integration, the stronger the effect on entrepreneurial entry will be. The results, however, indicate that this holds only to a certain degree: unrelated deals do not have a significant effect, broadly related deals have a marginally significant effect, and related deals have a more significant effect. However, it is somewhat puzzling that closely related deals, which were expected to have the strongest effect, are not significant. This could mean that an identified countervailing force might be at play, generating a boundary condition or even a U-shaped relationship between industry relatedness in M&As and entrepreneurial entry. Potential candidates in this case include noncompete contractual clauses or economic incentives (e.g., vested stock) to discourage employees' transition to entrepreneurship. Wezel *et al.* (2006) in fact show that noncompete clauses indeed limit entry to entrepreneurship by employees departing established organizations. It is also possible that closely related deals are put off when the risk of entrepreneurial transition is high, thus precluding the effect of closely related deals on

entrepreneurship, which is in line with the Younge *et al.*'s (2014) findings on overall employee mobility.

In general, I find that the country of origin of the acquirer is not a decisive factor on the impact of M&As on entrepreneurship. Both domestic and cross-border M&As have a positive effect on entrepreneurial entry, although the effect of domestic M&As is stronger and more significant. This finding is in line with the prediction that domestic M&As, which typically involve more extensive consolidation and integration, increase employees' span of control and decrease the relative number of internal advancement opportunities. These outcomes lead employees of the target organization to seek opportunities elsewhere; the higher up the organizational ladder they are, the more likely it is that they will choose entrepreneurship as a career option. This finding also indicates that for cross-border deals, less extensive consolidation is typically expected, and the effect is therefore less pronounced. The results also indicate the possibility that, for cross-border M&As, there could indeed be a countervailing effect of new advancement opportunities that is not present in domestic deals. At any rate, the results can be taken as evidence that national culture differences between the parties are unlikely to be a major driver of entrepreneurial transition in M&As. This finding is in line with the growing evidence that the heightened attention to culture in cross-border deals prevents conflict and enhances cooperation (Stahl and Voigt, 2008; Vaara *et al.*, 2012; Weber *et al.*, 1996).

This article is the first one to consider the effect of M&As on entrepreneurship beyond specific industries and to analyze quantitative phenomena including a comparable control group. The previous studies have considered M&As to be one of a number of relevant events in industry evolution (Brittain and Freeman, 1986; Buenstorf, 2007; Klepper, 2009; Klepper and Thompson 2010); however, this is the first to study M&As in depth and to link them to the phenomenon of entrepreneurial transition in its broadest conception. This is a key distinction, as the previous studies have more narrowly focused on a type entrepreneurship in high-tech industries that captures the public imagination but fails to account for the common phenomenon of entrepreneurial entry. Although there are good reasons for researchers to focus on the Intels and AMDs, a more general investigation of entrepreneurial transition is warranted as all types of entrepreneurship in conjunction carry a major weight in the economy (Sørensen and Fassiotto, 2011).

Despite the merit of using objective data on a large sample of deals, organizations, and individuals, the limitations of the empirical strategy are clear. This article is limited by the inability to show conclusively the exact mechanisms and dynamics behind M&As and employees' transition to entrepreneurship –the explanation of the evidence can only be speculative in nature. Additionally, the Danish labor market is considered to be particularly flexible; thus, extrapolating the findings from this study to other contexts should be done with caution. Nevertheless, as outlined by Dahl and Sorensen (2010), the mobility rates of Denmark are comparable to that of the US.

Replication of the findings presented here in other contexts will ultimately determine their wider applicability. It is my hope that this article will trigger further research in the field of the consequences of M&As, particularly regarding employee mobility. In this endeavor, perhaps further light can also be shed on the exact mechanisms that this article was not able to show.

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Chapter 4. External CEO-TMT replacement and employee stress and turnover

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Abstract: Organizations frequently replace the CEO and top management team members (TMT-members) through external recruitment. Studies have found that external succession in particular has effects on strategy and organization that change as the new members bring new cognitive frameworks and put their stamp on the organization. Empirically, this phenomenon has been found to affect the organizational performance; however, less is known about the impact on employees. This paper takes a point of departure in this literature and studies the effect of external CEO and TMT replacement on employees' mental health and turnover using a unique panel of data from Denmark that links the CEO/TMT-member recruitment of organizations with the drug prescription and career histories of their employees. Following the argument that new external top managers alter the organization, we study if the recruitment of new CEO/TMT-members externally leads to disruptions for employees and causes employees to leave the organization or suffer from mental health problems such as insomnia, anxiety and depression. We find that external TMT recruitment increases both the probability of employees leaving the organization (especially following TMT recruitment in the period before) and their risk of receiving stress-related prescription drugs for insomnia, anxiety and depression. We also find that internally replacing the CEO coupled with the replacement of other TMT-members increases the probability of employee turnover, whereas joint replacement events involving external CEO replacement decrease it. This finding suggests a complex relationship between internal and external top management team replacement and its impact on employees.

4.1. INTRODUCTION

Based on the premise that organizations are a reflection of their leaders (Hambrick and Mason, 1984), top management team (TMT) replacement has been a major topic in the management research for decades. Meanwhile, the direct performance outcome of TMT changes has been a fruitful area of research (i.e., Barron *et al.*, 2011; Haveman, 1993; Tushman and Rosenkopf, 1996; Williams *et al.*, 2017), with a general focus on the CEO figure (i.e., Beatty and Zajac, 1987; Georgakakis and Ruigrok, 2017; Karaevli, 2007; Karaevli and Zajac, 2013; Khurana and Nohria, 2000; Leker and Salomo, 2000; Shen and Cannella, Jr., 2002). A considerably less studied aspect of TMT replacement is its potential impact on employees' psychological wellbeing and turnover. Employees' mental wellbeing is clearly a relevant topic in itself; it is also relevant for organizations given the potential negative impact of impoverished mental health on employee productivity (Adler *et al.*, 2006; Brenninkmeijer *et al.*, 2008; Harter *et al.*, 2002; Stewart *et al.*, 2003; Wang *et al.*, 2004). Moreover, employee turnover has been systematically associated with lower organizational performance through the erosion of human and social capital (e.g., Hancock *et al.*, 2013; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005). Motivated by this literature, we investigate how external CEO/TMT replacement influences employees' mental health and turnover.

Replacement events represent inflection points in an organization's life because newcomers often come with a mandate for change and are given substantial managerial discretion to carry change through (Barron *et al.*, 2011; Karaevli, 2007; Quigley and Hambrick, 2012; Shen and Cannella, Jr., 2002). Since top managers' decision-making is shaped by their ability to search for information, identify issues, specify alternatives and choose the most appropriate courses of action (Hambrick and Fukutomi 1991), altering the composition of the TMT potentially leads to changes in decision-making and strategy, consequently affecting the entire organization. Replacement by managers from outside the organization potentially introduces relatively more heterogeneity to the cognitive basis of the TMT than internal succession, and it consequently alters decision-making to a larger extent. In addition, external successors arguably have both stronger ability and motivation to push for change than do internal successors (Barron *et al.*, 2011; Karaevli, 2007; Miller, 1993; Quigley and Hambrick 2012; Shen and Cannella, Jr., 2002; Virany *et al.*, 1992; Wiersema, 1992; Weisbach, 1995).

This article draws on the conversation of the effect of top leadership replacement events towards the individual-level psychological reactions. We study the extent to which external CEO/TMT replacement causes changes in employee stress and turnover, two key indicators of employees' emotional and psychological wellbeing. We make use of an extensive panel dataset containing information on Danish organizations and individuals' employment and medical histories. Through differences-in-differences and fixed effects regressions, we examine the increase in

employee negative stress and turnover due to external CEO/TMT replacement events. We operationalize stress as receiving prescriptions for insomnia (benzodiazepine-related medication and benzodiazepine derivatives) and anxiety and depression (selective serotonin re-uptake inhibitors) medications. This method has several advantages over other studies. First, it enables us to objectively measure the highly sensitive issue of serious mental health problems, overcoming the limitations of other studies that are based on self-reported surveys. Second, it measures severe negative stress-related mental health conditions. Although a certain level of stress is often considered positive for employees' performance, when conditions such anxiety, insomnia and depression arise, stress becomes a serious mental health issue. Third, it allows us to track the outcome before and after treatment and therefore to measure the degree to which changes in stress levels are associated with changes in top management.

Since the link between TMT replacement and employee reactions is virtually unexplored, we have adopted an inductive empirical approach (Helfat, 2007; Oxley *et al.*, 2010). First, we provide a theoretical motivation for the study and its relevance. It is important to keep in mind that the presented theories are not meant to be a full list of all potential mechanisms linking TMT replacement with stress. These are not tested empirically in this study, and we present a selection of these mechanisms based on a review of the literature. Second, we provide robust empirical evidence of the phenomenon across a large number of organizations. Third, we provide an informal theoretical discussion of what the evidence reveals (Helfat, 2007). As such, we provide context and theoretically plausible explanations to the link between top management replacement and employee reactions; however, we do not claim that this is *the only* hypothesis that could have been proposed a priori.

4.1.1. EXTERNAL CEO/TMT REPLACEMENT AND ORGANIZATIONAL CHANGE

According to the upper echelons theory, strategic decisions are shaped by the entire management team, not only by the CEO (Hambrick and Fukutomi, 1991; Hambrick and Mason, 1984; Shen and Cannella, Jr., 2002). Organizational outcomes –strategy and effectiveness- are reflections of the values and cognitive bases of their top managers (Hambrick and Mason, 1984). Thus, the events of TMT-members' replacement, and not just that of the CEO, may have a widespread impact both for the organization and for its employees (Barron *et al.*, 2011). Studies have generally found that changes in top management have profound consequences on the strategy, structure, competencies, and processes of the organization (Karaevli, 2007; Miller, 1993; Virany *et al.*, 1992; Wiersema, 1995). New managers often have little incentive to keep the status quo at the company, and they are therefore more likely to promote change than their predecessors (Miller, 1993; Tushman and Rosenkopf, 1996). The redistribution of power, the redesign of control systems, revision of practices, and new information systems are likely to be introduced following

succession (Miller, 1993). Executive replacement events can in fact have such a profound impact on organizations that they are often considered an inflection point in an organization's trajectory (Quigley and Hambrick, 2012; Tushman and Rosenkpf, 1996).

The organizational origin of incoming CEO/TMT-members is the most salient characteristic of top managers identified by the literature. The outcome of internal versus external replacement has been the subject of much controversy (Georgakakis and Ruigrok, 2017). In general, external replacement events are considered to bring about more fundamental change than internal succession for a number of reasons. First, new executive members increase cognitive diversity, bringing along new information and frameworks that help organizations adapt and evolve. The cognitive bases on which top executives operate are largely based on their previous experience (Hambrick and Mason, 1984), and therefore altering the composition of the top management through external replacement affects the cognitive basis on which the TMT operates to a greater extent than internally promoted members. Thus, new external CEO/TMT-members more markedly reshape the ability of top management to identify issues, search for information, specify alternatives and select appropriate courses of action (Hambrick and Fukutomi, 1991; Wiersema, 1992). Strategic decisions based on new cognitive schemas are less likely to perpetuate previous strategies and policies, and thus new external CEO/TMT-members are more inclined to introduce change than their predecessors. External CEO/TMT succession increases the relative heterogeneity of the top management, which increases the probability of diversion from past courses of action (Wiersema, 1992; 1995). New executives who were not part of the organization in the past are most likely to bring significant diversity as they do not share a set of common experiences with the rest of the TMT-members.

Second, external successors are less committed to preserving the status quo, and they have an interest in overcoming opposition and building a loyal front (Hambrick and Mason, 1984). In general, successors who come from outside the organization therefore have a stronger motivation to push for changes in strategy and organization than executives who rose through the organization's ranks (Miller, 1993; Hambrick and Mason, 1984). Executives who have climbed their way up the hierarchical structure have likely learned to manage the power structures of the organization; thus, they might be less keen on challenging the status quo (Barron *et al.*, 2011). Moreover, managers often show a tendency to escalate investment and reinforce commitment to their past decisions to the point that they might get locked-into trajectories (Brockner, 1992). New external executives do not feel such commitment to past decisions as they were not part of the decision-making; thus, external replacement may provide the opportunity to break away from such investment trajectories.

Lastly, external successors are often *expected* to exert change and are thus given larger managerial discretion for defining and implementing such change (Shen and Cannella, Jr., 2002). This is a crucial aspect of replacement as organizations tend to develop a set of values and norms over time that is increasingly difficult to change (Hannan *et al.*, 2003). Executives often become embedded in this organizational inertia, which serves to legitimize and institutionalize current practices, hardly carrying out significant organizational changes (Wiersema, 1992). External replacement may provide the opportunity to overcome such inertial forces and redirect the organization (Tushman and Romanelli, 1985; Tushman and Rosenkopf, 1996). New executives with no exposure to the organization may have more discretionary power to alter current practices and challenge the existing power basis, to which they have no ties.

4.1.2. ORGANIZATIONAL CHANGE, EMPLOYEE STRESS AND TURNOVER

The widespread change that follows succession can represent a source of disruption for the organization, particularly when it affects core organizational features: the organizational mission, the form of authority, the basic technologies, and the marketing strategy (Hannan and Freeman, 1984). When changes affect these features, they can be potentially disruptive for organizations since organizations are inherently resistant to change (Hannan *et al.*, 2003). Altering well established routines and behavioral patterns is a destabilizing process that has uncertain (stochastic) outcomes, and decision-makers have a tendency to underestimate the true costs of change and the time needed to complete it (Hannan *et al.*, 2003). Since the feedback effects of change are largely unpredictable, further (unexpected) changes are often needed to correct the deficiencies of prior changes, thus setting a stage of instability and uncertainty within the organization (Hannan *et al.*, 2003).

Employees often struggle to cope with the uncertainty caused by change, and they can respond emotionally to it (Vakola and Nikolaou, 2005). Employee responses to organizational change often manifest in increased levels of stress and depression (Bordia *et al.*, 2004; Dahl, 2011; Ferrie *et al.*, 1998; Hellgren and Sverke, 2003). Challenging "the way things are done in here" can increase employees' fear and uncertainty in terms of their ability to cope with new methods and situations (Vakola and Nikolaou, 2005). Uncertainty (i.e., the lack of knowledge about current and future events) caused by organizational change leads to negative employee stress (Bordia *et al.*, 2004). Uncertainty about the future direction of the company is likely to cause uncertainty at the structural level, which will ultimately translate into job-related uncertainty. The latter is the most damaging for the psychological wellbeing of employees (Bordia *et al.*, 2004). In sum, uncertainty about the new role of employees can generate frustration, stress, depression, and burn-out on the individuals during and following changes in the organization.

Another way in which change can elicit emotional responses is by breaching the implicit psychological contract between employees and employers. Psychological contracts are a set of expectations that are gradually formed regarding the mutual obligations between employees and their employers (Morrison and Robinson, 1997; Rousseau, 1989). Such expectations are often not written down, not even vocalized; however, they are still part of the culture and values of the workplace. These contracts can often be breached in the process of organizational change (Shield *et al.*, 2002). If changes to the organization are crafted at the top management level with perhaps limited input from or regard for other organizational members, they have the potential to alienate employees and fail to fulfill the set of implicit mutual obligations (Montes and Zweig, 2009). Violation can then lead to reduced effort, uncivil behavior, or the exiting of the organization; it can also manifest in more emotional terms such as expressions of anger and distress, or even physical disturbances such as increased blood pressure and stress (Morrison and Robinson, 1997).

Dahl (2011) and Ferrie *et al.* (1998) provide large-scale empirical evidence on the effects of organizational change on employee wellbeing. Ferrie *et al.* (1998) found through a self-reported survey that individuals in organizations that undergo major changes are more likely to experience an increase in longstanding illness, adverse sleep patterns, and minor psychiatric morbidity. Similarly, Dahl (2011) found that organizational change has significant effects on employees' levels of stress and depression, especially if they work in organizations that undergo broad change simultaneously in several dimensions.

In addition to the evident importance of employee wellbeing in itself, employee reactions to change also have the potential to affect organizational performance. Severe psychological problems such as depression decrease employees' productivity and ability to focus while also increasing absenteeism (Stewart *et al.*, 2003; Wang *et al.*, 2004). Studies have also shown that impoverished employee psychological wellbeing and working environment increases workplace conflicts and unrest, decreasing labor productivity and translating into significant financial losses (Krueger and Mas, 2004; Mas, 2008). Similarly, employee turnover leads to lower levels of organizational performance (Hancock *et al.*, 2013; Hatch and Dyer, 2004; Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005; Waldman *et al.*, 2004) through the erosion of both human and social capital and increased overhead.

External executive replacement and the ensuing uncertainty surrounding the organization may trigger different reactions among employees. While some workers may develop stress-related symptoms, external succession is also likely to translate into higher levels of employee turnover. The reason for this phenomenon is two-fold: on the one hand, the uncertainty that follows organizational change erodes organizational commitment and increases levels of dissatisfaction, conflict and burnout. Although there is a multitude of factors that might affect employees'

decision to leave an organization (for a review, see Cotton and Tuttle, 1986; Griffeth *et al.*, 2000), we expect that external executive replacement will lead to a significant increase in the number of employees seeking to leave the organization.

Other theoretical approaches to employee turnover, such as that of Holtom *et al.* (2005) and Lee *et al.* (1996), propose that voluntary turnover is usually caused by shocks to the individual's identification with the organization. Shocks are events that are sufficiently relevant to individuals to cause them to question whether they should leave the organization, regardless of their previous level of job satisfaction (Holtom *et al.*, 2005). Organizational changes resulting from external executive replacement that affect the organization's core features can represent a shock to individuals, triggering a process of re-evaluation of their attachment to the organization. If external executive replacement results in widespread organizational change, we thus expect that employees who are exposed to external CEO/TMT replacement will have a higher probability of becoming stressed or leaving than employees who are not exposed to replacement.

4.1.3. MULTIPLE AND JOINT REPLACEMENTS

While CEO and TMT-member replacement events can be inflection points in organizations' trajectories, some factors can either enhance or limit the potential for change of these events. One such factor is whether the CEO and TMT-members are jointly replaced or whether multiple TMT-members are replaced in a short period. Barron *et al.* (2011) argue that for substantial change to occur, the CEO replacement must be coupled with the replacement of other TMT-members to mark a change of guard. A substantive departure from the status quo requires a revamp of the entire TMT, and the establishment of a camp that is loyal to the new CEO. The joint replacement of the CEO and other TMT-members is necessary for new CEOs to have an impact on strategic change. In the same vein, Shen and Cannella, Jr. (2002) argue that new CEOs who come from outside the organization often do not have ties to other members of the TMT, which results in the hostile reception of newly appointed external CEOs. This, in turn, may result in both the voluntary and involuntary departures of senior TMT-members as external replacements seek to carry changes through. If only the CEO is replaced, other senior TMT-members may block or slow down attempts to implement substantial change.

Karaevli (2007) similarly argues that the *intent* for change signaled by the board of directors when they hire an external CEO may not always match the newcomer's ability to *achieve* change. TMT-members appointed by the outgoing CEO are likely to show hostility towards a new external CEO and to oppose change. This resistance limits the CEOs ability to initiate and carry change through, and therefore the joint replacement of the CEO and other TMT-members might be necessary for change. We thus expect the joint external replacement of the CEO and other TMT-members

in particular to enable more substantial organizational change and to thus lead to higher levels of employee stress and turnover.

While we argue that externally replacing senior TMT-members generally leads to organizational change, it is possible that more substantial change is achieved when several members of the TMT are replaced simultaneously. Multiple TMT-member replacement should both further increase the cognitive diversity of the TMT (Hambrick and Fukutomi, 1991) and weaken the resistance to change from top management (Shen and Cannella, Jr., 2002). In the first follow-on analysis, therefore, we explore the role of the specific effect of joint CEO-TMT-member replacement and multiple-TMT-member replacement on employee stress and turnover.

4.1.4. ORGANIZATIONAL STABILITY AND PREVIOUS PERFORMANCE

In general, external successors are understood to have both greater motivation and a stronger mandate to implement substantial change than internal successors. However, even when external successors are brought in with the task of changing the organization, they are often unable to actually achieve such change (Karaevli, 2007). Two key determinants of the ability of newcomers to carry change through identified by the CEO/TMT-member replacement literature relate to the context in which succession occurs. On the one hand, Boeker (1997) and Zhang and Rajagopalan (2010) emphasize the role of previous organizational performance in enabling change. Periods of poor performance help new executives overcome resistance to change (Boeker, 1997; Zhang and Rajagopalan, 2010). Arguing that performance indicates the suitability of the current organizational strategy, in their view, poor performance indicates the need for a directional change. Stakeholders will tend to support change more strongly when they perceive that change is required such as following a period of poor performance. If this is the case, we would expect that CEO/TMT-member replacement in a context of poor organizational performance would lead to more organizational change than in periods of solid performance. In our framework, this would translate into increased employee turnover and stress.

Karaevli and Zajac (2013), on the other hand, emphasize the role of organizational stability more broadly in limiting or facilitating change. They argue that corporate stability (defined as ordinary succession, a long-tenured predecessor CEO, and good organizational performance) is required for external CEOs to be able to set and implement changes. Periods of poor organizational performance result in more limited financial resources, increased monitoring by the board and limited willingness to support uncertain or risky projects. Periods of stability and solid performance thus provide a platform for change whereas periods of poor performance and turmoil make harnessing the resources and support for change

more difficult. Shen and Cannella, Jr. (2002) similarly argue that previous CEO tenure is a key determinant of the level of change following replacement, with succession following longer tenures being more prone to disruption and change. If this is the case, then we expect that external replacement in a context of positive organizational performance and without succession events in the previous years would provide the necessary platform for change, leading to higher levels of employee turnover and stress. In the second follow-on analysis, therefore, we focus on how previous performance and previous succession events influence the effect of CEO/TMT-member succession on employee turnover and stress.

4.2. EMPIRICAL STRATEGY AND DATA

Measuring the mental health effects of organizational events is a challenging endeavor. Widely used techniques, such as surveys and interviews, can suffer from severe limitations in the study of such sensitive matter since individuals may avoid revealing information regarding their mental health condition. Moreover, publicly available, objective data on the mental health of individuals is hardly available.

This paper overcomes these limitations by means of a unique matched dataset that provides information on employee mobility patterns, on the one hand, and prescriptions of stress-related medication on the other. This dataset has been previously used in Dahl (2011) and Pierce *et al.* (2013). It is the product of the merger between the Danish Integrated Database for Labor Market Research (IDA) and a Danish database on medical prescriptions for all individuals in Denmark. In this way, we are able to observe a) employee mobility patterns to measure employee turnover, and b) the number of prescriptions for medicines related to stress and depression, for measuring negative employee stress. The individual data on mobility and medical prescriptions is additionally matched with organizational-level datasets, to identify CEO/TMT-member recruitment.

As highlighted by Barron *et al.* (2011) and Quigley and Hambrick (2012), the continued presence of departed executives in the organization, for example, as chair of the board, is not uncommon. This might limit the ability of newcomers to implement substantive change (Quigley and Hambrick 2012), and we therefore empirically focus on cases where the former CEO/TMT-member departs the organization.

Descriptive statistics of the sample can be found on Table XXIV and Table XXV. The tables are split between organizational-level variables (Table XXIV) and individual-level variables (Table XXV). As we can see, the mean stress level at organizations that experience external TMT or CEO replacement is slightly higher, and employee turnover slightly lower, than at organizations that do not experience external succession. Control organizations are also slightly smaller, younger, and less profitable than organizations that undergo external CEO or TMT-member

succession. Similarly, individual-level descriptive statistics reflect the same pattern, with employees in the control group being less likely female, more likely to be blue-collar workers, and marginally younger and less experienced.

Table XXIV: Descriptive Statistics - Organizations

	New Ext TMT 5		New Ext CEO		No change	
	Mean	SD	Mean	SD	Mean	SD
Stress	0.052	0.046	0.052	0.046	0.047	0.042
Turnover	0.130	0.120	0.136	0.122	0.176	0.131
New External TMT	0.347	0.476	0.402	0.490	0	0
New External CEO	0.132	0.338	0.223	0.416	0	0
New Internal TMT	0.280	0.449	0.281	0.450	0.210	0.407
New Internal CEO	0.064	0.244	0.065	0.246	0.094	0.292
Average TMT age	47.068	6.469	46.631	6.787	49.749	7.048
Average TMT tenure	7.374	5.282	6.379	5.185	11.134	6.230
TMT size	7.712	20.558	7.647	18.438	5.118	50.944
Organization age	15.115	7.700	14.916	7.703	13.071	8.150
Founded <1980	0.398	0.489	0.380	0.485	0.339	0.473
Organization size (Ln)	4.490	0.994	4.548	1.007	3.906	0.751
Organization size (Ln), t_{-1}	4.474	0.985	4.533	1.001	3.897	0.738
Sales per employee	1.802	1.768	1.804	1.775	1.534	1.445
Sales per employee, t_{-1}	1.705	1.685	1.710	1.698	1.444	1.367
Profit per employee	0.070	0.118	0.068	0.119	0.062	0.109
Profit per employee, t_{-1}	0.066	0.111	0.064	0.112	0.058	0.103
Number of organization-year Observations	23,574		13,944		6,950	

Table XXV: Descriptive Statistics - Employees

	New Ext TMT 5		New Ext CEO		No change	
	Mean	SD	Mean	SD	Mean	SD
Stress	0.057	0.232	0.056	0.230	0.051	0.219
Turnover	0.130	0.336	0.135	0.341	0.165	0.371
Female	0.357	0.479	0.349	0.477	0.311	0.463
Age	41.761	10.861	41.580	10.843	40.085	11.402
Labor market experience (Ln)	15.355	6.621	15.274	6.606	14.069	6.817
Tenure (Ln)	7.079	6.365	7.126	6.373	5.649	6.002
Full time	0.910	0.286	0.912	0.284	0.880	0.325
Blue collar	0.675	0.468	0.682	0.466	0.739	0.439
1st gen immigrant	0.041	0.199	0.043	0.202	0.039	0.194
2nd gen immigrant	0.003	0.058	0.003	0.058	0.004	0.059
Kids (0-5 yrs)	0.252	0.561	0.257	0.565	0.255	0.565
Kids (6-12 yrs)	0.300	0.615	0.304	0.618	0.283	0.600
Kids (13-17 yrs)	0.183	0.457	0.184	0.458	0.174	0.447
Number of person-year observations	2,724,994		1,560,491		509,447	

4.2.1. VARIABLES

TREATMENTS

The first treatment is defined as working for an organization that experiences the external replacement of a top-5 non-CEO TMT-member in terms of pay (*New External TMT*). This identification of core TMT-members is largely in line with the approach used by most of the TMT-replacement literature. Barron *et al.* (2011), for example, uses that approach and focuses on the top-3 non-CEO TMT-members.

The second treatment (*New External CEO*) is defined as working for an organization that experiences the external CEO replacement in particular. The CEO is taken as the highest paid executive. Both treatments take the value 1 if the individual is treated, and zero otherwise.

To contrast the proposition that external replacement has a particular impact on the organization, we also test whether internal succession has a similar effect. For that purpose, we additionally create a treatment for the internal replacement of a top 5 non-CEO member of the TMT (New Internal TMT) and a treatment for internal CEO replacement (New Internal CEO).

For the follow-on analysis, we develop a series of treatments for multiple and joint TMT-CEO replacement events. To test the effect of the simultaneous replacement of multiple top-5 TMT-members on employees, we created two treatments: multiple external top-5 TMT-member replacement (New Multi-External TMT) and multiple internal top-5 TMT-member replacement (New Multi-Internal TMT). The next treatment of the follow-on analysis (*Joint)* refers to employees working for an organization that experiences the joint replacement of the CEO and other top 5 members of the TMT. Next, a treatment was created for each combination of joint internal-external CEO-top 5 TMT-member replacements: joint external CEO and external top 5 TMT-member replacement (External CEO-External TMT), joint external CEO and internal top 5 TMT-member replacement (External CEO-Internal TMT), joint Internal CEO and external top 5 TMT-member replacement (Internal CEO-External TMT), and joint internal CEO and internal top 5 TMT-member replacement (Internal CEO-Internal TMT).

For the follow-on analysis of the role of stable and unstable organizational contexts, we created treatments for external top 5 TMT-member replacement and external CEO replacements in the context of stability and instability. Stability was defined as no previous TMT replacements in the previous period. By comparison, instability was defined as TMT replacement with other top 5 TMT-members replaced in the previous period. Four conditions were created: external CEO replacement in a stable organizational context (New External CEO, Stability), external top-5 TMT-member replacement in a stable context (New External TMT, Stability), external CEO replacement in an unstable context (New External CEO, Unstable), and external top-5 TMT-member replacement in an unstable context (New External TMT, Unstable).

Finally, to further test the proposition that change through succession is only enabled by stable organizational contexts, we construct a series of 1-1 matched samples of organizations. The first sample (338 organizations) is composed of organizations that experienced a decline in sales from the previous year and either external top-5 TMT-member replacement (treated) or no replacement (control). The second sample (488 organizations) is composed of organizations that also experienced declining sales from the previous year and that experienced either external CEO replacement (treated) or no replacement (control). The last two samples, of 968 and 1672 organizations, respectively, are analogous but in a context of sales increase.

DEPENDENT VARIABLES

The first dependent variable in this study is a measure of negative employee stress. The data on stress come from the Danish Medical Database, which is maintained by Statistics Denmark. The prescriptions of medicines typically used to treat stress-related symptoms (insomnia, anxiety, and depression) were traced before and after the treatment. These drugs are selected according to their codes provided by the

Anatomic Therapeutic Chemical (ATC) classification system, produced by the World Health Organization Collaborating Center for Drug Statistics Methodology. In particular, we identify drugs related to shorter-term insomnia (benzodiazepine-related medication, ATC: N05CF) and longer-term insomnia (benzodiazepine derivatives, ATC: N05BA), on one hand, and anxiety and depression (selective serotonin re-uptake inhibitors, ATC: N06AB) on the other. The variable *Stress* is a dummy variable, taking the value 1 if the individual was prescribed with stress-related medication that year, and zero otherwise.

The second dependent variable in this study is employee turnover. The data in this case come from Danish Integrated Database for Labor Market Research (IDA), also maintained by Statistics Denmark. Employee turnover is a dummy variable, taking the value 1 if the employee leaves the organization, and zero otherwise.

INDEPENDENT VARIABLES

Organizational and environmental conditions are key elements that can affect the relationship between CEO/TMT-member replacement and strategy change (Georgakakis and Ruigrok, 2017; Karaevli, 2007; Karaevli and Zajac, 2013). For that reason, it is essential to control for both past organizational performance and industry. Organizational performance is measured by sales (at t_0 and t_{-1}) and profit (at t_0 and t_{-1}) per employee. Industry is a categorical variable based on 2-digit NACE codes. Organizational size (ln) is measured as the number of FTE and reported at t_0 and t_{-1} whereas organizational age is measured in the years since it was founded. In addition, a dummy for organizations founded before 1980 (the year the records start) is also included.

Also at the organizational level, we control for the average size of the TMT (number of top executives based on ISCO classification), the average age of the TMT, and the average tenure of the TMT in the organization.

At the individual level, a number of demographic variables are controlled for. These include years of age, gender (1 female, 0 male), number of kids (age 0-5, age 6-12, and age 13-17), and two dummy variables indicating whether the individual is a first- or second generation immigrant (1 yes, 0 no). Job-related individual-level years of tenure in the organization, and labor market experience (number of years in labor market). All models in this paper control for the variables mentioned in this section and standard errors are always clustered at organizational level.

4.2.2. EMPIRICAL STRATEGY

In an ideal experiment, we would randomly assign CEO and TMT changes with internal and external replacements to organizations and follow the prescriptions of employees. This is obviously not a feasible research design. We rely on two other

strategies for the identification of effects. First, we study the effects in a differences-in-differences design, where we compare changes over time to a set of control organizations that have not experienced the changes at the CEO/TMT-level. We control for the financial performance and other observable characteristics to minimize potential selection bias. Second, we estimate the within-organization effects in linear probability models with organization fixed effects. This allows us to control for unobservable differences between organizations.

These strategies at least partly account for the following concerns: Omitted variable bias, which happens when a variable (unaccounted for) is both correlated with the outcome (stress and turnover) and the treatment (external CEO/TMT-member replacement). The most obvious candidate in this case is the performance of the organization prior to the recruitment of a new CEO/TMT-member. Employees may be under stress or leaving the organization due to poor organizational performance, which also causes the replacement of top executives. To address the potential noise, we first and foremost control for organizational performance (sales, sales per employee and profit per employee) for the last two years prior to the replacement event. In addition, in the second follow up analysis, we create a matched sample of comparable organizations with comparable performance prior to succession (treated) and no succession (control).

4.3. RESULTS

4.3.1. MAIN ANALYSIS

Table XXVI displays the results of the main analysis on employee turnover. All models in this table are logistics regressions and include controls for employee demographics and rank, TMT characteristics (as well as organizational age and size), current and past size and performance, industry fixed effects and year fixed effects. Standard errors in all models are clustered at the organizational level. In column (1), we regress the probability of an employee leaving the organization on the hiring of a new internal CEO (*New Internal CEO)*, a new external CEO (*New External CEO)*, a new internal TMT-member (*New Internal TMT)* or a new external TMT-member (*New External TMT*). The results in column (1) show a positive and significant ($p<0.01$) correlation between employee turnover and the hiring of new internal and external TMT-members. We find no correlation between external CEO replacement and employee turnover, and a very marginally significant ($p<0.10$) negative correlation between internal CEO replacement and employee turnover.

In columns (2) to (4), we turn to the differences-in-differences (DID) analysis. Here, the variables of interest are the interaction of the treatment and the *post* period –i.e., the period after the treatment. In column (2) we find that despite the initial appearance of a lack of correlation between external CEO replacement and employee turnover, this process masked a positive and significant ($p<0.01$) effect in

the *post* period for the treated with respect to the control. That is, the DID analysis shows that external CEO replacement has a positive effect on the probability of employee turnover, an increase of approximately 24%. Similarly, external TMT-member replacement (column (3)) also results in a significant probability increase of approximately 70% in employee turnover. Column (4) shows that internal TMT-member replacement also has a positive effect, although it is smaller and less significant than that of external replacement.

Table XXVI: Employee Turnover, Logistic Regressions

	(1)	(2)	(3)	(4)
New Internal CEO	-0.089*			
	[0.050]			
New External CEO	0.028			
	[0.058]			
New Internal TMT	0.093***			
	[0.032]			
New External TMT	0.169***			
	[0.043]			
New External CEO (all years)		-0.075**		
		[0.034]		
New External CEO x Post		0.216***		
		[0.037]		
New External TMT (all years)			-0.511***	
			[0.058]	
New External TMT x Post			0.535***	
			[0.044]	
New Internal TMT (all years)				-0.200***
				[0.039]
New Internal TMT x Post				0.087**
				[0.035]
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.05	0.05	0.06	0.05
Log-likelihood	-839,991	-840,074	-836,737	-840,452
Number of Organizations	4,537	4,537	4,537	4,537
Number of person-year observations	2,223,106	2,223,106	2,223,106	2,223,106

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

In Table XXVII, we repeat the model of Table XXVI, and we include organization fixed effect to account for unobserved organizational heterogeneity. The models displayed are all linear probability models. Overall, the direction of the results in column (1) is the same as those displayed in Table XXVI. When we turn to the DID analysis, however, we obtain quite a different perspective. The DID estimator for external CEO replacement is not significant when unobserved organizational heterogeneity is controlled for in column (2). The same applies to internal TMT-member replacement, which no longer has an effect on employee turnover. However, external TMT-member replacement shows robustness to organization

fixed effects as displayed in column (3) of Table XXVII. Employees working for an organization that undergoes external TMT-member replacement are more likely to leave than before, compared to the control, and this likelihood is robust to unobserved organizational heterogeneity. This assessment is consistent with the proposition that replacement of the whole top management team has an impact on the organization, and not just that of the CEO. It is also consistent with the proposition that more change would come from external TMT-member replacement than from internal replacement. The finding that, overall, external CEO replacement does not have a significant effect is more surprising. One potential explanation is that external CEO replacement *alone* might not be enough to enable change. It could be that additional TMT changes are required to enable substantive change in the organization following CEO replacement, as argued by Baron *et al.* (2011), among others. We address this scenario in the next section.

Table XXVII: Employee Turnover, Organization Fixed Effects Model, Linear Probability

	(1)	(2)	(3)	(4)
New internal CEO	-0.017***			
	[0.004]			
New External CEO	-0.004			
	[0.009]			
New internal TMT	0.008**			
	[0.003]			
New External TMT	0.012***			
	[0.004]			
New External CEO x Post		0.003		
		[0.007]		
New External TMT x Post			0.048***	
			[0.005]	
New Internal TMT x Post				0.002
				[0.005]
Organization fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.03	0.03	0.03	0.03
Log-likelihood	-689,065	-689,357	-688,230	-689,359
Number of Organizations	4,537	4,537	4,537	4,537
Number of person-year observations	2,223,106	2,223,106	2,223,106	2,223,106

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

In Table XXVIII, we turn to the analysis of employee stress. Analogous to Table XXVI, in column (1), we regress the probability of receiving stress-related medication on CEO and TMT-member replacement. In this case, we find no correlation between employee stress and internal or external CEO succession, a weakly significant correlation (p<0.10) with internal TMT-member replacement, and a more significant correlation with external TMT-member replacement. In columns (2) to (4) we turn to the DID analysis. Here, we see that there is no effect of either external CEO succession (column (2)) or internal TMT-member replacement

on employee stress. We find, however, a nearly 4% positive effect of external TMT-member replacement on employee stress ($p<0.05$).

Table XXVIII: Employee Stress, Logistic Regressions

	(1)	(2)	(3)	(4)
New internal CEO	0.008			
	[0.015]			
New External CEO	-0.014			
	[0.014]			
New internal TMT	0.016*			
	[0.009]			
New External TMT	0.025**			
	[0.010]			
New External CEO (all years)		-0.016		
		[0.016]		
New External CEO x Post		0.015		
		[0.016]		
New External TMT (all years)			-0.019	
			[0.021]	
New External TMT x Post			0.036**	
			[0.017]	
New Internal TMT (all years)				0.021
				[0.020]
New Internal TMT x Post				0.011
				[0.014]
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.04	0.04	0.04	0.04
Log-likelihood	-451,748	-451,754	-451,749	-451,752
Number of Organizations	4,537	4,537	4,537	4,537
Number of person-year observations	2,223,106	2,223,106	2,223,106	2,223,106

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *($p<0.10$), **($p<0.05$), ***($p<0.01$).

In Table XXIX, we repeat the models of Table XXVIII and include organization fixed effects. All models in this table are linear probability models. Column (1) shows that when accounting for unobserved organizational heterogeneity, there is no correlation between employee stress and either internal CEO or internal TMT-member replacement. The positive correlation between stress and external TMT-member replacement is also weak ($p<0.10$), as is the negative correlation with external CEO replacement. Columns (2) to (4) display the DID estimation results. Here, we see that the results from Table XXVIII are robust throughout to unobserved organizational heterogeneity. Only external TMT succession has a positive and significant effect on employee stress. This is in line with the findings for employee turnover, and we also take it as evidence that the external replacement of members of the whole TMT -and not specifically of the CEO- has a significant impact on employees' mental wellbeing throughout the organization.

Table XXIX: Estimated Probability of Stress, Organization Fixed Effects Models, Linear Probability

	(1)	(2)	(3)	(4)
New internal CEO	0.000			
	[0.001]			
New External CEO	-0.001*			
	[0.001]			
New internal TMT	0.000	0.000		
	[0.000]	[0.000]		
New External TMT	0.001*	0.000		
	[0.000]	[0.000]		
New External CEO x Post		-0.000		
		[0.001]		
New External TMT x Post			0.002***	
			[0.001]	
New Internal TMT x Post				-0.001
				[0.001]
Organization fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.01	0.01	0.01	0.01
Log-likelihood	165,629	165,627	165,631	165,627
Number of Organizations	4,537	4,537	4,537	4,537
Number of person-year observations	2,223,106	2,223,106	2,223,106	2,223,106

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

4.3.2. FOLLOW-ON ANALYSIS: MULTIPLE AND JOINT REPLACEMENTS

The finding that external CEO replacement does not have a significant effect on either employee turnover or stress seems to go against the initial proposition of this study. As discussed above, however, a stream of literature has recently indicated that CEO succession may not be enough to enable substantial organizational change. In particular, the recent findings suggest that the joint replacement of the CEO and other TMT-members is required to achieve change (Barron *et al.*, 2011; Karaevli, 2007; Shen and Cannella, Jr., 2002). Thus, we next turn to the analysis of multiple TMT-member replacements and joint CEO-TMT-member replacements. First, we consider the effect of the replacement of multiple internal and external TMT-members on employee stress and turnover. The results are displayed in Table XXX.

Table XXX: Employee Turnover and Stress, Logistic Regressions

	(1)	(2)	(3)	(4)
New Multi-External TMT (all years)	-0.105*		0.039*	
	[0.055]		[0.022]	
New Multi-External TMT X Post	0.061		-0.021	
	[0.053]		[0.018]	
New Multi-Internal TMT (all years)		-0.212***		0.014
		[0.055]		[0.022]
New Multi-Internal TMT X Post		0.026		0.007
		[0.044]		[0.016]
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Pseudo R^2	0.05	0.06	0.04	0.04
Log-likelihood	-491,113	-580,059	-260,332	-315,584
Number of Organizations	2,417	2,698	2,417	2,698
Number of person-year observations	1,265,224	1,534,221	1,265,224	1,534,221

Employee Turnover: Columns 1 & 2; Stress: Columns 3 & 4.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

As above, all models include controls for employee demographics and rank and TMT characteristics as well as organizational age, current and past size and performance, industry fixed effects and year fixed effects. Standard errors in all models are clustered at the organizational level. Columns (1) and (2) in Table XXX shows the effect of multiple external and internal TMT-member replacements on employee turnover, respectively: neither event has an effect on employee turnover. Columns (3) and (4) display the effect of multiple external and internal TMT-member replacements on employee stress: similarly, there is no effect of either event on employee stress. These results are robust to unobserved organizational heterogeneity, as shown in unreported linear probability models with organization fixed effects (available on request).

These results suggest that the effect of external TMT-member replacement observed in the previous section is not related to multiple replacement events. Employees' probability of exiting the organization or becoming stressed is not particularly increased by multiple TMT replacements. This finding can seem slightly puzzling as we would have expected that multiple replacements would bring about more change and thus have a more disruptive effect on employees. A possible explanation is that external top management replacement has a marginally decreasing effect on stress and turnover. If that is the case, it would suggest that the heterogeneity brought by a single new external TMT-member would be more disruptive for the organization than the simultaneous replacement of several top-team members. Another possible explanation is that the replacement of a single TMT-member is qualitatively different than the replacement of multiple TMT-members as they are simply different phenomena, perhaps with diverging causes.

Next, we turn our attention to the analysis of joint CEO-TMT-member replacement events. In this case, we identified five possible scenarios. In the first scenario, all possible joint replacements involving the CEO and another member of the TMT are considered to be a single treatment (*Joint*), as displayed in column (1) in Table XXXI through XXXIII. In the second scenario, organizations undergo joint external CEO replacement and external TMT-member replacement during the same period (column (2) in Table XXXI through XXXIII). In the third scenario, organizations undergo joint external CEO and internal TMT-member replacement in the same period (column (3) in Table XXXI through XXXIII). In the last two scenarios, organizations undergo joint internal CEO replacement and either external TMT-member replacement (column (4) in Table XXXI through XXXIII) or internal TMT-member replacement (column (5) in Table XXXI through XXXIII) displays the DID estimation results of logistic regressions for employee turnover. The main variables of interest here are also the interactions between the treatments and the *post* period variable. Column (1) shows that the overall effect of joint replacement events is positive but only marginally significant ($p<0.10$). That translates into a weakly significant link if we lump together all types of joint replacement. Column (2) shows that joint external CEO-external TMT-member replacement has no effect on employee turnover. The same can be said about joint external CEO-internal TMT-member replacement in column (3) and joint internal CEO-internal TMT-member replacement (column (5)). In contrast, the joint internal replacement of the CEO and external replacement of a TMT-member does have a positive and significant effect of approximately 31% on the probability of employee turnover.

Table XXXI: Employee Turnover, Logistic Regressions - Joint Replacements

	(1)	(2)	(3)	(4)	(5)
Joint	-0.217***				
	[0.048]				
Joint x Post	0.084*				
	[0.044]				
External CEO-External TMT		-0.176***			
		[0.049]			
External CEO-External TMT x Post		0.064			
		[0.047]			
External CEO-Internal TMT			-0.084		
			[0.064]		
External CEO-Internal TMT x Post			0.040		
			[0.061]		
Internal CEO-External TMT				-0.088	
				[0.066]	
Internal CEO-External TMT x Post				0.268***	
				[0.069]	
Internal CEO-Internal TMT					-0.140**
					[0.058]
Internal CEO-Internal TMT x Post					0.004
					[0.059]
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.05	0.06	0.06	0.07	0.06
Log-likelihood	-657,004	-580,442	-311,331	-261,211	-407,820
Number of Organizations	3,699	3,250	1,733	1,629	2,443
Number of person-year observations	1,709,845	1,495,844	795,821	657,694	1,046,746

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

Table XXXII displays the results of the DID analysis of joint replacement events, with the addition of organization fixed effects to control for unobserved organizational heterogeneity. All models are linear probability models with standard errors clustered at the organizational level. The results show that by adding organization fixed effects, the overall effect of joint replacement (column (1)) becomes insignificant. However, this finding masks the fact that different types of joint replacement are actually significant but in *opposite* directions. Both joint replacement events involving external CEO replacement (columns (2) and (3)) have a *negative* effect on employee turnover. Both joint replacement events involving internal CEO replacement (columns (4) and (5)) have a positive and significant effect on employee turnover. By controlling for unobserved organizational heterogeneity, we thus confirm that joint replacement events involving internal CEO replacement have a positive impact on employee turnover whereas joint replacement events involving external CEO replacement have a negative impact on turnover.

These findings appear to be slightly paradoxical and to contradict the previous theories (e.g., Shen and Cannella, Jr., 2002) that predict that external CEO successors will embark on swift change. It is possible that two mechanisms are at play: On one hand, since employees may have limited knowledge of the new external CEOs and TMT-members, they might delay their decision to depart the organization until they have gathered enough information on the potential impact of the replacement. On the other hand, this finding would be consistent with Karaevli's (2007) narrative of Louis V. Gerstner, Jr.'s tenure as CEO of IBM: external CEOs may take their time to increase their knowledge of the organization before initiating change. If that were generally the case, then we would not observe a discrete increase in employee turnover immediately following joint external CEO/TMT-member events. Internal CEO replacements –of the type described by Shen and Cannella, Jr. (2002) as "contender successors"- with their more in-depth knowledge of the organization, would be in a position to initiate change swiftly after their appointment, bringing in new external TMT-members to that end. As opposed to ordinary internal CEO replacement, in which the CEO retires, contender succession is the result of a power struggle that ends in the ousting of the CEO and often other TMT-members. While internal CEO replacement per se may not have a significant effect on employee turnover, the combination of internal CEO replacement and external TMT-member replacement can precisely describe the "contender succession" event.

Table XXXII: Employee Turnover, Organization Fixed Effects Models, Linear Probability - Joint Replacements

	(1)	(2)	(3)	(4)	(5)
Joint x Post	0.002				
	[0.004]				
External CEO-External TMT x Post		-0.012**			
		[0.005]			
External CEO-Internal TMT x Post			-0.015**		
			[0.007]		
Internal CEO-External TMT x Post				0.022***	
				[0.007]	
Internal CEO-Internal TMT x Post					0.014**
					[0.006]
Organization fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.03	0.03	0.03	0.03	0.03
Log-likelihood	-547,295	-488,569	-265,443	-227,989	-345,813
Number of Organizations	3,699	3,250	1,733	1,629	2,443
Number of person-year observations	1,709,845	1,495,844	795,821	657,694	1,046,746

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

In Table XXXIII, we turn to the analysis of joint replacement in terms of employee stress. As above, the variables of interest are the interactions between the treatment and the *post* variable. The models in Table XXXIII are all logistic regressions on the probability of receiving stress-related medication prescription and include the same set of controls as in the previous models. Standard errors are clustered at the organizational level. The results show that there is no significant effect of any type of joint replacement on employee stress. These results are further confirmed by unreported linear probability models with organization fixed effects (available on request). These findings indicate that joint replacement events are not generally sufficiently relevant in terms of their impact on employees' mental health.

Table XXXIII: Employee Stress, Logistic Regression - Joint Replacements

	(1)	(2)	(3)	(4)	(5)
Joint	-0.004				
	[0.021]				
Joint x Post	0.016				
	[0.016]				
External CEO-External TMT		0.003			
		[0.021]			
External CEO-External TMT x Post		-0.011			
		[0.017]			
External CEO-Internal TMT			0.050**		
			[0.025]		
External CEO-Internal TMT x Post			-0.022		
			[0.024]		
Internal CEO-External TMT				0.030	
				[0.032]	
Internal CEO-External TMT x Post				-0.017	
				[0.030]	
Internal CEO-Internal TMT					0.012
					[0.025]
Internal CEO-Internal TMT x Post					0.023
					[0.021]
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.04	0.04	0.04	0.05	0.04
Log-likelihood	-349,325	-304,237	-164,367	-135,498	-215,352
Number of Organizations	3,699	3,250	1,733	1,629	2,443
Number of person-year observations	1,709,845	1,495,844	795,821	657,694	1,046,746

Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

4.3.3. FOLLOW-ON ANALYSIS: ORGANIZATIONAL STABILITY AND PREVIOUS PERFORMANCE

One of the latest debates regarding the effect of CEO/TMT-member replacement on the organization concerns the role of organizational stability and performance in enabling change (Karaevli and Zajac, 2013; Shen and Cannella, Jr., 2002). Stability is thus defined in terms of positive organizational performance and the lack of recent leadership changes. These arguments are partly contested by scholars (Boeker, 1997; Zhang and Rajagopalan, 2010) who claim to the contrary that change is only possible following periods of poor performance, as performance is a clear indicator of the suitability of current systems and strategies for the environment. Therefore, it is quite possible that CEO/TMT-member replacement has a markedly different effect on employee turnover and stress depending on whether it follows a period of poor organizational performance and/or other leadership changes.

To analyze the combination of organizational stability (in terms of leadership replacement) and organizational performance, we created two matched samples in which we observed CEO/TMT-member replacement (treated) or no replacement (control) in a context of either negative organizational performance or positive performance. Performance was measured as sales growth (positive/negative), although additional samples used sales-per-employee growth and profit-per-employee growth for robustness, with essentially the same results. The main results are presented on Table XXXIV through Table XXXVII.

Table XXXIV shows the DID estimation results for the external CEO replacement in a context of falling sales. These are linear probability models with organization fixed effects and include all the control variables from the previous models. In this context, external CEO replacement that was not preceded by CEO replacement in the previous period (*New External CEO Stability x Post*) has a negative effect on employee turnover. The probability of employee turnover therefore decreases when the CEO is externally replaced and sales are declining, if the CEO has not been replaced in the previous year. Conversely, when the CEO has been replaced in the previous year (*New External CEO Instability x Post*), externally replacing the CEO has no effect on employee turnover. Neither treatment has a significant effect on employee stress. In sum, in a context of poor organizational performance, external CEO replacement has a negative effect on employee turnover if the CEO had not also been replaced in the previous year and no effect if the CEO had been replaced in the previous year. This finding suggests that stability and performance combine to determine the effect of external CEO replacement on employee turnover and that employees may react positively to a leadership change when performance is negative and the CEO has not been recently replaced.

Table XXXIV: Employee Turnover and Stress, Organization Fixed Effects Models, Linear Probability - Sales drop

	(1)	(2)	(3)	(4)
New External CEO Stability x Post	-0.033**		-0.004	
	[0.015]		[0.005]	
New External CEO Instability x Post		0.006		0.002
		[0.013]		[0.002]
Organization fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.04	0.03	0.01	0.02
Log-likelihood	-52,865	-85,655	15,060	19,604
Number of Organizations	292	488	292	488
Number of person-year observations	150,214	320,990	150,214	320,990

1-Stable, 2-Unstable; 3-Stable, 4-Unstable.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

The results of external TMT-member replacement in a context of declining sales with and without replacement in the previous period are displayed in Table XXXV. The external replacement of a TMT-member when sales are in decline has no effect

on employee turnover if TMT-members had not been replaced the year before (*New External TMT Stability x Post*). Similarly, the action also does not have a significant effect on employee stress. Conversely, the external replacement of TMT-members when replacement also occurred the previous year (*New External TMT Instability x Post*) and sales are in decline has a positive and significant effect on employee turnover. The effect of such replacement on employee stress is negative, although it is only marginally significant ($p<0.10$). Overall, this indicates that in a context of poor organizational performance, the effect of external TMT-member replacement on employee turnover depends on whether changes to the TMT also occurred during the previous period.

Table XXXV: Employee Turnover and Stress, Organization Fixed Effects Models, Linear Probability - Sales drop

	(1)	(2)	(3)	(4)
New External TMT Stability x Post	-0.007		0.001	
	[0.011]		[0.004]	
New External TMT Instability x Post		0.053***		-0.004*
		[0.008]		[0.002]
Organization fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.04	0.04	0.02	0.01
Log-likelihood	-37,167	-50,109	9,813	14,912
Number of Organizations	216	336	216	336
Number of person-year observations	98,742	139,322	98,742	139,322

Columns: 1-Stable, 2-Unstable; 3-Stable, 4-Unstable.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels:*($p<0.10$), **($p<0.05$), ***($p<0.01$).

To compare the scenario of poor organizational performance described above, Table XXXVI displays the results of DID models for external CEO replacement in the context of *increasing* sales. All models are linear probability models with organization fixed effects, and we control for the same set of variables as in all previous models. External CEO replacement, whether it follows replacement in the previous year (*New External CEO Instability x Post*) or not (*New External CEO Stability x Post*), has no effect on either employee turnover or employee stress in a context of increasing sales. Taken together, this is evidence that when performance is positive, external CEO replacement does not have a significant impact on employee turnover or stress, irrespective of CEO replacement in previous years.

Table XXXVI: Employee Turnover and Stress, Organization Fixed Effects Models, Linear Probability - Sales Increase

	(1)	(2)	(3)	(4)
New External CEO Stability x Post	0.013		-0.002	
	[0.013]		[0.003]	
New External CEO Instability x Post		0.017		-0.001
		[0.014]		[0.002]
Organization fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.04	0.04	0.01	0.01
Log-likelihood	-100,923	-134,324	27,263	37,557
Number of Organizations	785	928	785	928
Number of person-year observations	269,802	360,572	269,802	360,572

Columns: 1 and 2, employee turnover, 3 and 4, employee stress.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

Finally, Table XXXVII shows the results of the models for external TMT-member replacement in a context of positive organizational performance. As in the rest of the models in this section, these are linear probability models with organization fixed effects and include the same controls as the rest of the models. We find that, in this context, external TMT-member replacement has a negative effect on employee turnover when there has not been replacement in the previous year (*New External TMT Stability x Post*) and a positive effect if there has been replacement the year before (*New External TMT Instability x Post*). External TMT-member replacement does not have an impact on employee stress in a context of sales increase, irrespective of TMT replacement the year before. In sum, organizational performance does not make a difference on the effect of external TMT-member replacement on employee turnover and stress; however, stability does. Replacement after a period of replacement has a positive effect on employee turnover, regardless of the performance of the organization. These results are further confirmed in (unreported) robustness checks for different measures of organizational performance (sales per employee, profit per employee) and by reviewing replacement in the previous two years.

Table XXXVII: Employee Turnover and Stress, Organization Fixed Effects Model, Linear Probability - Sales Increase

	(1)	(2)	(3)	(4)
New External TMT Stability x Post	-0.025**		-0.002	
	[0.012]		[0.003]	
New External TMT Instability x Post		0.046***		0.000
		[0.007]		[0.002]
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.04	0.04	0.01	0.01
Log-likelihood	-78,224	-89,954	23,470	29,574
Number of Organizations	502	603	502	603
Number of person-year observations	225,928	275,674	225,928	275,674

Columns: 1 and 2, employee turnover, 3 and 4, employee stress.
Standard errors are clustered at the level of the organization and reported in brackets.
Significance levels: *(p<0.10), **(p<0.05), ***(p<0.01).

4.4. DISCUSSION

Motivated by the debate on the outcomes of top management succession, we studied the effect of external CEO/TMT-member replacement on employee stress and turnover as well as the roles of multiple replacements and organizational stability and performance in such outcomes. To this end, we used a large panel dataset of Danish organizations and employees that contains information on employees' mobility and medical prescriptions. We consistently found that external TMT-member replacement increases employee turnover and stress and that external TMT-member replacement in unstable contexts increases employee turnover irrespective of the organizational performance in the period leading up to the replacement. These findings are in line with the upper-echelon view of the firm, by which the whole TMT shapes the organization and its strategy; the findings do not support views that either positive or negative organizational performance is a prerequirement for change (Boeker, 1997; Karaevli and Zajac, 2013; Zhang and Rajagopalan, 2010). Performance is relevant, however, with regard to external CEO replacement. In a context of positive performance, external CEO replacement does not have a significant impact on employee turnover or stress, irrespective of CEO replacement in the previous years. When performance is negative, externally replacing the CEO actually *reduces* employee turnover if no replacement happened the year before. Taken together, this is evidence that CEO succession is least disruptive for employees when the organization is performing strongly, and it is even positive in periods of poor performance without recent replacement.

Another major finding is that joint replacement events involving internal CEO replacement increase employee turnover whereas joint replacement events involving external CEO replacement decrease turnover. We believe that two mechanisms could be at play in this case: first, it may be a timing issue, which occurs as employees wait to obtain more information on the new external CEO's and the

remodeled TMT's potential impact on the organization and as the new executives in turn learn more about the organization before embarking on major changes. This would be consistent with cases such as Louis V. Gerstner, Jr.'s tenure as CEO of IBM (Karaevli, 2007). Second, it is possible that internal "contender succession" – whereby the CEO is forced to step down as a result of power struggles and is replaced internally– can be more disruptive for employees than external CEO replacements when coupled with a new TMT. With their more in-depth knowledge of the organization, internal "contenders" would be in a position to initiate change swiftly after their appointments, bringing in new TMT-members to overcome opposition to change. This is in line with Shen and Cannella, Jr. (2002), who note that internal contender succession will have the most immediate impact on organizational performance as contenders initially have a better understanding than external candidates of the required changes and how to harness internal support. This second possible mechanism raises some questions regarding the extent to which executive "outsiderness" is a meaningful trait in cognitive terms, as initially theorized. If external CEOs bring in fresh perspectives and cognitive schemas that have a substantial impact on the organization, then why does the joint external replacement of the CEO and other TMT-members not have an impact on employee turnover and stress whereas internal replacement does have an impact? Further, the argument of internal political resistance to new external CEOs is not sound because, in this scenario, members of the TMT are also replaced, paving the way for the new CEO to establish his or her agenda. Overall, on one hand, the evidence supports the notion of "contender" succession as the most disruptive type for employees, and, on the other, it calls for a re-examination of the factors of outsiderness that may determine the impact of external successors on employee turnover and stress.

The replacement of multiple members of the TMT does not show an effect on either stress or turnover. This is in some ways surprising as one would logically expect that more TMT replacement would lead to more change and thus more stress and turnover. A possible explanation is that top management replacement may have a negative marginal effect on stress and turnover whereby, after the first replacement, replacing additional members gradually decreases the effect of replacement on employee stress and turnover. We believe that this could be an indication that a "change of guard" in the TMT decreases internal conflict. If this were the case, it opens up the possibility that internal power struggles are the driving force of employee stress and turnover down the line, rather than organizational change, as initially theorized in the current study. Further investigation should shed light on this specific question.

This article informs two contemporary discussions. First, it contributes to the debate on the impact of organizational changes on employee turnover and mental wellbeing (Dahl, 2011; Ferrie *et al.*, 1998). Second, it expands the discussion on the outcomes of CEO/TMT-member recruitment (i.e., Barron *et al.*, 2011; Georgakakis and Ruigrok, 2017; Karaevli, 2007; Karaevli and Zajac, 2013; Quigley and Hambrick,

2012; Shen and Cannella, Jr., 2002; Williams *et al.*, 2017) by considering its impact on individual employees throughout the organization. We show that external CEO/TMT-member recruitment has significant implications for employee turnover and, to a lesser extent, employee stress. Given the well-established link between employee turnover and organizational performance (Kacmar *et al.*, 2006; Park and Shaw, 2013; Shaw *et al.*, 2005), the effect of external recruitment on turnover is indeed an important finding. Organizations' decisions to hire new CEO/TMT-members should account for increased levels of employee turnover as a consequence of external recruitment, and the potential associated costs should also be considered in the executive hiring decision.

Our panel dataset enables us to overcome common methodological limitations by allowing us to consistently and objectively track individual mobility patterns and the prescription of medicines related to stress for the entire Danish population. Access to linked data on medicine prescriptions on this scale provides an exceptional opportunity for analyzing the mental health outcomes of organizational phenomena.

There are some limitations to the current study that should be considered. It is possible that CEO/TMT-member replacement and employee turnover/stress are jointly caused by a third (omitted) variable. The obvious candidate in this case is organizational performance. Thus, we controlled for past organizational performance and several organizational characteristics to limit the potential effect of poor performance on stress and turnover. However, we do not know why the CEO/TMT-member was replaced, which could have been unrelated to organizational performance and not captured by other observable variables. Another limitation of the empirical setting is that while we empirically demonstrate the phenomenon, we are unable to disentangle the exact mechanisms behind it. We propose a series of plausible mechanisms behind the effect of external CEO/TMT-member succession on employee turnover and stress; however, we are not able to dismiss all other potential alternative mechanisms. In particular, based on the extant literature, we propose that CEO/TMT-member replacement leads to organizational change and that organization change leads to employee stress and turnover. However, it is possible that CEO/TMT-member replacement leads to stress and turnover through other mechanisms such as internal struggles for power and political disputes.

Another limitation of this study is that we cannot observe potential coping mechanisms other than stress and turnover. It is possible that individuals used other means for coping with change besides turnover such as negative organizational citizenship behaviors, absenteeism, the lack of organizational commitment, or the abuse of alcohol and other substances. We are only able to measure a reduced – albeit significant- number of outcomes of organizational change on wellbeing.

Finally, this study is also limited in terms of the population it studies as the Danish labor market is considered to be particularly flexible. There are relatively low barriers to switching employers since, for example, holidays and pension schemes are transferable from one employer to another. It is possible that employees in other labor markets with higher costs of switching employers will be less prone to changing and, instead, cope with change in different ways. In such cases, it is also possible that employees are more likely to become stressed as a consequence of not being able to depart from the organization. With respect to populations with higher switching costs, we infer that the results of this study may provide a higher estimation of the effect on turnover and an underestimation of the effect on stress.

4.5. REFERENCES

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SUMMARY

Organizations increasingly engage in M&As and executive board shakeups –but how do these impact employees' behavior? Do employees suffer from anxiety and depression when top managers are ousted and replaced by outsiders? Do the "best and brightest" leave in droves following M&As? Or do employees transition to entrepreneurship instead? Employees' mental well-being is clearly a relevant topic in itself, and it is also crucial for organizations given the potential negative impact of impoverished mental health on employee productivity. Employee turnover, on the other hand, undermines performance by eroding the social and human capital base of the organization and affecting organizational performance, survival and competitive advantage. Similar to turnover, entrepreneurial entry has been associated with significant performance damage for the source organization. This thesis brings us a step closer to understanding the impact of these predominant business practices on the organizations' micro-foundations –their employees.

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